National Energy Board

Office national de l'énergie

Reasons for Decision

TransCanada PipeLines Limited

GHW-001-2014

July 2015

Facilities

Canada

National Energy Board

Reasons for Decision

In the Matter of

TransCanada PipeLines Limited

King's North Connection Pipeline Project

GHW-001-2014

July 2015

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Glossary of Terms and Abbreviations

ANE	Alberta Northeast Gas Limited
Applicant, TransCanada or the Company	TransCanada PipeLines Limited
Board or NEB	National Energy Board
CCA	Claireville Conservation Area
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
CSA Z662	Canadian Standards Association Z662, *Oil and Gas Pipeline Systems*
DFO	Department of Fisheries and Oceans
EC	Environment Canada
Enbridge	Enbridge Gas Distribution Inc.
EPP	Environmental Protection Plan
Gaz Métro	Gaz Métro Limited Partnership
GTA	Greater Toronto Area of southern Ontario
Ha	Hectare
HDD	Horizontal Directional Drilling
HONI	Hydro One Networks
HSE MS	Health, Safety and Environment Management System
Intervenor	A party (e.g. individual(s), company or group) who has applied to participate in the hearing and has been granted standing by the Board to participate as an Intervenor; has rights and obligations in the proceedings as set out in the Hearing Order.
IR or Information Request	A written question to an applicant or Intervenor in relation to its evidence, filed by the Board, an Intervenor or the applicant during the written portion of the hearing pursuant to the deadlines set out by the Board, to which a response must be subsequently filed.
LSA	Local Study Area
M	Metre
Maple	Station 130
MNCFN	Mississaugas of the New Credit First Nation
MNRF	Ontario Ministry of Natural Resources and Forestry
MTO	Ontario's Ministry of Transportation
NCOS	New Capacity Open Season
NEB	National Energy Board
NEB Act or Act	*National Energy Board Act*
NPS	Nominal Pipe Size (in inches)
OPR	*National Energy Board Onshore Pipeline Regulation , 1999*
Part IV	Part of the NEB Act entitled "Traffic, Tolls and Tariffs"

Participant	A party (e.g. individual(s), company or group) who has applied to participate in the hearing and who has been granted standing to participate by the Board; includes the applicant (TransCanada), Intervenors and Commenters.
$PM_{2.5}$	Particulate matter up to 2.5 micrometers in size
Project	TransCanada's proposal to construct and operate the King's North Connection Pipeline Project
RAP	Restricted Activity Period
RoW	Right-of-way
RSA	Regional Study Area
SARA	*Species at Risk Act*
Street "A"	Street "A" is a mid-block east west connector street crossing Highway 427 in the City of Vaughan.
TBO	Transportation by Others; an arrangement by which all or part of one pipeline's transportation capacity is contracted for by another pipeline. The cost of service for this capacity is included as a line item in the cost of service of the other pipeline.
TransCanada	TransCanada PipeLines Limited
TTF	Mainline Tolls Task Force
TWS	Temporary Workspace
Union	Union Gas Limited
Vaughan	The Corporation of the City of Vaughan
York Region	Regional Municipality of York

Recital and Appearances

IN THE MATTER OF the *National Energy Board Act* (NEB Act) and the Regulations made thereunder; and

IN THE MATTER OF an application dated 15 August 2014 by TransCanada PipeLines Limited, for an Order from the Board granting approval to construct and operate the Project pursuant to section 58 of the NEB Act, filed with the National Energy Board under File No. OF-Fac-Gas-T211-2014-02 01; and

IN THE MATTER OF Hearing Order GHW-001-2014 dated 13 November 2014.

HEARD by way of written submissions;

BEFORE:

K. M. Bateman	Presiding Member
L. Mercier	Member
S. Parrish	Member

Intervenors

Written Appearances

Ms. Stephanie Brown Ms. Rosemary Stevens Mr. Robert Tarvydas	TransCanada PipeLines Limited
Mr. Joseph Sgro Ms. Lynn Mitchell	1406979 Ontario Limited
Mr. Joseph Sgro Ms. Lynn Mitchell	2172311 Ontario Inc.
Ms. Sevan Vanes Mr. Emilio Bisceglia	2236391 Ontario Limited
Mr. Thomas Barlow Mr. Cosmo Casale	Arbor Memorial Inc.
Ms. Lisa Lawler Ms. Stephanie Allman Ms. Tania Persad	Enbridge Gas Distribution Inc.
Mr. Daniel Halbert Ms. Lynn Mitchell	Glen-Huntington Business Park Limited

Ms. Shahrzad Rahbar Ms. Lucie Gervais Ms. Stephanie Hryciw Ms. Rosa Twyman	Industrial Gas Users Association
M. Xavier Brosseau M. Sébastien Charron Maître Valérie Pagé M. Richard Sirois	Ministère de l'Énergie et des Ressources naturelles du Québec
Ms. Margaret Sault Ms. Emily Ferguson	Mississaugas of the New Credit First Nation
Mr. Darrell Kloeze Mr. Wayne Bell Mr. Edward Sweet Mr. Eric Wagner	Ontario's Ministry of Transportation
Mr. Ernest Belyea Mr. Dan Kuzmyk	Regional Municipality of York
Ms. Christine Cote Ms. Lynn Mitchell	Seven 427 Developments Inc.
Mme Isabelle Lemay M. Eric Dunberry Mme Marie-Christine Hivon Mme Élaine Parent M. Dave Rhéaume	Société en commandite Gaz Métro
Mr. Celeste Iacobelli Ms. Lynn Mitchell	Squire Ridge Investments Limited
Ms. Heather A. Wilson Mr. Ernest Belyea	The Corporation of the City of Vaughan
Mr. Warren Reinisch Mr. Laurie Smith	Union Gas Limited
Mr. Joseph Sgro Ms. Lynn Mitchell	Vaughan West II Limited

Commenters

Written Appearances

Ms. Rose Mary Vandergrift Mr. James H. Smellie Ms. Michelle Voinorosky Ms. Cheryl Worthy	BP Canada Energy Group ULC
Mr. Brent Czarnecki Ms. Anna Stangherlin Ms. Lori Stewart Ms. Helga D. Van Iderstine	Centra Gas Manitoba Inc.
M. Jean-Philippe Vincent M. Simon Pi	Conseil de la Nation huronne-wendat
Ms. Denise Fell	Environment Canada - Environmental Protection Operations Directorate, Ontario Region

Disposition

The letter Decision was issued on 2 June 2015. The following chapters contain our Reasons for Decision in respect of the Project heard by the Board in the GHW-001-2014.

LETTER DECISION

File OF-Fac-Gas-T211-2014-02 01
2 June 2015

Ms. Stephanie Brown
Regulatory Project Manager
TransCanada PipeLines Limited
450-1st Street S.W.
Calgary, Alberta T2P 5H1
Facsimile 403-920-2347

Ms. Rosemary Stevens
Senior Legal Counsel
TransCanada PipeLines Limited
450-1 Street S.W.
Calgary, Alberta T2P 5H1
Facsimile 403-920-2310

Dear Ms. Brown and Ms. Stevens:

Hearing Order GHW-001-2014
TransCanada PipeLines Limited (TransCanada)
Application for the King's North Connection Pipeline Project (Project)
Decision and Order with Reasons to Follow

On 15 August 2014, TransCanada applied to the National Energy Board (NEB or Board) for an Order from the Board granting approval to construct and operate the Project pursuant to section 58 of the *National Energy Board Act* (NEB Act). In its application, TransCanada also requested exemptions from paragraph 30(1)(a) and section 31 of the NEB Act.

In a letter dated 1 October 2014 the Board confirmed that the application was complete and set the time limit for the Board to issue an order or dismiss the application. On 13 November 2014 the Board issued hearing order GHW-001-2014 setting the application down for a written hearing. Seventeen intervenors and four commenters participated in the hearing.

The Board considered TransCanada's application, as well as submissions by all participants on the record for the GHW-001-2014 hearing. The Board has decided to release its decision with reasons to follow. It is the Board's view that there is a benefit to the hearing participants, the natural gas market and the public by having a timely decision. The Board's written reasons will be released on or before 6 August 2015.

The Board notes that TransCanada made numerous commitments relating to project matters such as construction scheduling, land agreements and permits and authorizations. Adherence to and reporting on these commitments is set out in Conditions 2 and 3 in the Order. Intervenors also proposed a number of conditions relating to compensation, however, matters of compensation are not within the Board's authority to consider. Compensation claims for land use or for damage resulting from construction are handled by the federal Minister of Natural Resources. When a landowner and a pipeline company cannot agree on compensation for lands that the company has acquired or damaged, either party may apply to the Minister of Natural Resources to receive the services of a negotiator, or to have the dispute settled by arbitration.

The Board issues Order XG-T211-027-2015 (Order), and associated conditions pursuant to section 58 of the NEB Act, the effect of which is to approve the Project. A copy of the Order and its Schedule A, which together, outline the specifics of the Project as approved, is attached. The Board grants TransCanada's request for exemption from the provisions of paragraph 30(1)(a) and section 31 of the NEB Act.

TransCanada is directed to notify intervenors to the GHW-001-2014 proceeding when filings pursuant to Board conditions 3, 5, 7 and 9 are made. In addition, intervenors can request TransCanada to provide them notification of any other filing required by the Board under Order XG-T211-027-2015. The Board also reminds TransCanada that it must apply for Leave to Open pursuant to section 47 of the NEB Act, prior to the facilities being placed in operation.

The Board recognizes that hearings often raise matters that affect people, the environment, commercial interests and municipal and other government authorities. The Board acknowledges and expresses its appreciation for the quality of the submissions that were made by the Parties, including at the technical conference. These submissions were very helpful to the Board in making its decisions.

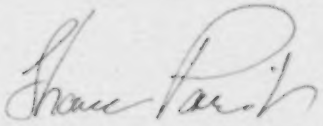
The Board directs TransCanada to serve a copy of this letter, the attached Order and its Schedule A on all interested parties.

Disposition

The foregoing constitutes our Decision in respect of the Project heard by the Board in the GHW-001-2014 proceeding.

K. M. Bateman
Presiding Member

L. Mercier
Member



S. Parrish
Member

Calgary, Alberta
June 2015

Chapter 1

Introduction

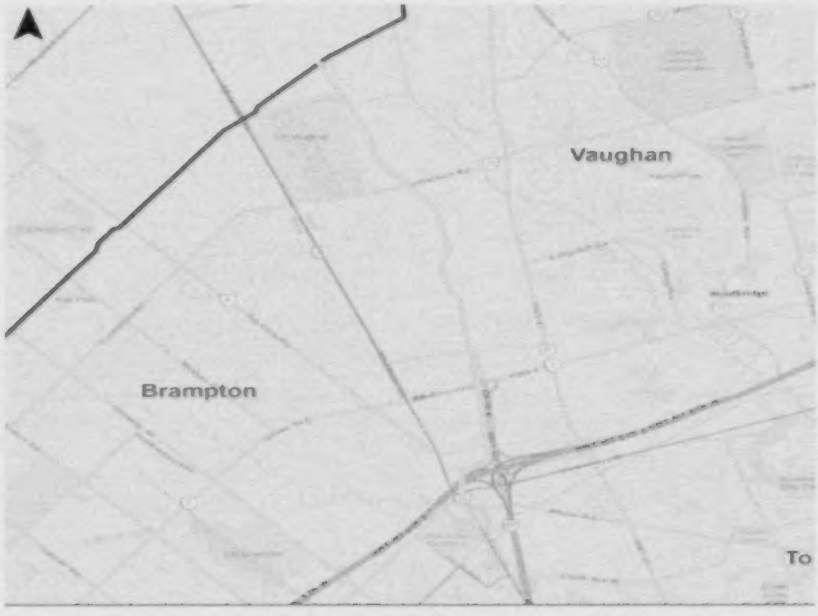
1.1 Overview of the application

On 15 August 2014, TransCanada PipeLines Limited (.ransCanada) filed the application detailing its request to construct and operate the King's North Connection Pipeline Project (the Project). The Project consists of approximately 11 km of 914.4 mm (NPS 36) pipeline, two tie-in valves and associated facilities. The Project will connect Enbridge Gas Distribution Inc.'s (Enbridge) Albion Station expansion to the existing TransCanada Line 200-2, 914.4 mm (NPS 36) pipeline in the Greater Toronto Area (GTA) of southern Ontario.

The Project will facilitate access to the growing natural gas supplies in the northeastern United States. TransCanada is proposing the Project, in conjunction with a Transportation by Others (TBO) arrangement on Enbridge's Segment A pipeline. Together, the Project and the TBO act as a partial loop of TransCanada's Mainline facilities between Parkway and the Maple Compressor Station.

The Project and TBO were a part of the 2013–2030 Mainline Settlement Agreement among TransCanada, Enbridge, Union Gas Limited (Union) and Gaz Métro Limited Partnership (Gaz Métro). The agreement discussed various interrelated tolling, tariff and facilities issues and was the subject of the RH-001-2014 proceeding. Therefore TransCanada's application does not request approvals pursuant to Part IV of the *National Energy Board Act* (NEB Act) concerning the recovery of the costs of the Project through tolls.

Figure 1-1: Project Location Map



1.2 Overview of the hearing

On 29 September 2014, the Board determined that the application was complete enough to proceed to assessment. On 13 November 2014, the Board issued the GHW-001-2014 Hearing Order, which established a written process for the Board's consideration of the application. The Hearing Order included the List of Issues (found in Appendix I of these Reasons) that the Board proposed for consideration during its assessment of TransCanada's application.

Pursuant to subsection 55.2 of the NEB Act, the Board must determine who may participate in a hearing for a project before the Board. To be eligible to participate, interested persons or groups must request participation and demonstrate to the Board in their participation application that:

- they are directly affected by the proposed project; or
- they have relevant expertise or information that will assist the Board in making its decision in respect of a proposed project.

Those who wished to participate in the hearing process for the Project were required to submit an Application to Participate to the Board by 11 December 2014.

On 22 December 2014, the Board released Ruling No. 2 establishing the List of Parties (comprised of TransCanada and Intervenors) and the List of Commenters for the proceeding. In its Ruling No. 3 the Board decided two applications for reconsideration of standing. These two persons were granted the opportunity to submit a Letter of Comment. As a result, there were 17 Intervenors and four Commenters for the GHW-001-2014 proceeding.

On 11 March 2014, the Board released Procedural Direction No. 1 indicating it would begin the written final argument portion of this proceeding on 10 April 2015. On 31 March 2015 the Board held a technical conference to assist it in understanding the benefits and burdens associated with general land matters pertaining to the Project. Fifteen parties participated in the technical conference.

The regulatory documents on file in the GHW-001-2014 proceeding are available on the Board's website, www.neb-one.gc.ca.

The conditions listed in Order XG-T211-027-2015 are presented in Appendix II.

Chapter 2

Engineering Matters

In its examination of pipeline and facility applications, the Board considers relevant engineering issues to ensure that the applicant will design, construct and operate its proposed facilities in a safe and secure manner. The Board examines issues such as the suitability of the proposed design, its operation, integrity management, and how it will be constructed and maintained.

When a company designs, constructs, operates or abandons a pipeline, it must do so in accordance with the Board's *Onshore Pipeline Regulations, 1999* (OPR), the commitments made during the Board's hearing process and the conditions attached to any approval. The OPR references various engineering codes and standards including the Canadian Standards Association *Z662 Oil and Gas Pipeline Systems* (CSA Z662). The applicant is responsible for ensuring that it follows the design, specifications, programs, manuals, procedures, measures and plans developed and implemented by the company in accordance these requirements.

The Board also assesses the potential impacts, and how those impacts will be managed, between a project and land use that may be in proximity to, or overlap, the project. These impacts must be suitably considered in the design and planning, to enable a project to be in the public interest.

2.1 Description of facilities

The Project involves the construction and operation of approximately 11 km of 914.4 mm (NPS 36) diameter, new buried pipe to transport sweet natural gas. The pipeline connects Enbridge's Albion Meter Station and TransCanada's Line 200-2. The company has committed to complying with CSA Z662, and the OPR for its design, construction and operation of the Project.

The planned route encounters existing major highways, high-voltage transmission lines, environmentally sensitive areas, an active rail yard, existing and planned future commercial and light industrial development, and a residential area.

A detailed class location assessment based on current development concluded that the Project meets the CSA Z662 criteria designations as Class 1 or 2 locations. Considering future development plans, TransCanada has selected a line pipe wall thickness for a Class 3 location for the entire Project.

Views of TransCanada

TransCanada acknowledged that routing was one of the key considerations for the Project due to its location within a "congested urban environment with many competing interests". TransCanada reduced the width of the RoW where feasible, and designed pipeline depth to accommodate all existing and known proposed utilities.

Views of Participants

Individual landowner concerns centered on maintaining accessibility to their properties (vehicular and pedestrian access) and enabling utility access.

Three provincial or municipal authorities (Corporation of the City of Vaughan (Vaughan), the Regional Municipality of York (York Region), and the Ontario Ministry of Transportation (MTO)) raised concerns about how the project would impact their utility and transportation infrastructure.

The MTO expressed concerns with the impact of TransCanada's 30 metre (m) safety zone on construction, maintenance and future highway improvements through the life of the pipeline, given that TransCanada's 30 m safety zone encroaches on the Ministry's RoW; and the impact of the pipeline on planned structures and other highway infrastructure in those areas where the pipeline crosses directly under the Ministry's right-of-way and setback.

Vaughan and York Region also expressed concerns with the pipeline's impact on current and anticipated infrastructure and crossing agreements. Vaughan sought confirmation that their preferred design of Street "A" would be accommodated by the pipeline's depth. Street "A" is a mid-block east west connector street crossing Highway 427 in the City of Vaughan. The objectives of a mid-block crossing include enhancing transit service coverage and connectivity and improving local traffic connectivity and routing opportunities.

2.2 Views of the Board

The Board notes that in each case of potential conflict between existing/proposed utility or transportation infrastructure, and the proposed project, a sound engineering solution, consistent and compliant with CSA Z662 was committed to by TransCanada. In a number of cases, the solutions were arrived at following extensive consultations.

The Board notes that flexibility and creativity were required to derive the solutions. In some cases, the pipeline will be installed at significant depths through the use of horizontal directional drilling (HDD) and horizontal bores. The Board also notes that the use of these technologies have current limitations as to length and depth. In some cases, the solution was to install the pipeline at shallower depths and to augment the pipeline safety with other pipeline protection while still maintaining appropriate depth of cover and safety zones. The Board finds that the final agreed-upon solutions are an appropriate use of available technologies within the current limitations.

The Board notes that the solution to the pipeline/infrastructure conflict at Street "A" was the result of discussion and negotiation, including the technical conference that led to a mutually acceptable resolution which was achieved in May 2015. The Board encourages this type of approach and commends the parties. The Board is satisfied that the proposed pipeline installation at Street "A" meets the objectives of Vaughan, MTO, TransCanada and the Board.

The Board notes that there are impacts with building a pipeline in a developed and developing area. These impacts can be appropriately resolved in a number of ways including the use of respectful and meaningful discussions. The Board finds that TransCanada's planning for future development in the Project area in its choice of Project materials and installation such as class location pipe is appropriate for compliance with the Board's OPR, and by reference the CSA Z662 in the foreseeable future.

Chapter 3

Land Matters

The Board's *Filing Manual* sets out the Board's expectations for lands information to support an application for an Order under section 58 of the NEB Act. Applicants are expected to provide a description and rationale for the proposed route of a pipeline, the location of associated facilities, and the permanent and temporary lands required for a project. Applicants are also expected to provide a description of the land rights to be acquired and the land acquisition process, including the status of land acquisition activities. This information permits the Board to assess the appropriateness of the proposed route, land requirements and the applicant's land acquisition program.

3.1 Routing and land use

Views of TransCanada

TransCanada's proposed approximately 11 km pipeline begins at the Enbridge Albion Meter Station in Toronto, heads north, paralleling Indian Line Road and crossing Highway 407 before jogging east toward Highway 427. The pipeline then runs north again, mostly paralleling the existing Highway 427 as well as its planned extension, until veering northwest to tie in at TransCanada's 200-2 line. TransCanada described in detail the five alternate routes considered for the pipeline connecting the Enbridge Albion Station expansion and TransCanada's Line 200-2 and explained why these alternate routes were less satisfactory than the proposed route.

TransCanada indicated that it attempted to avoid or mitigate impacts to landowners along its project route by paralleling the existing and future public transportation corridors as closely as possible; avoiding frontages; reducing the RoW width where feasible, and planned for pipeline depths to accommodate all existing utilities, and, where practicable, proposed utilities. The proposed route includes HDD at varying depths to avoid or reduce impact on both above-ground and below-ground infrastructure.

TransCanada stated it designed the project to accommodate MTO's highway and transit plans by routing the project entirely outside MTO's existing and planned setbacks, except where the pipeline will be installed at significant depth. TransCanada noted it will continue to engage with MTO to coordinate both parties' developments to ensure that any future conflicts are addressed.

TransCanada stated it designed the pipeline to avoid existing and planned City of Vaughan and York Region infrastructure by ensuring sufficient depth of pipeline to meet or exceed minimum clearance as per codes and specifications, including Vaughan's proposed Street "A" in Block 59, and Vaughan's existing and planned stormwater pond near Zenway Blvd. TransCanada indicated that Vaughan's community multi-use trail system could be constructed within the safety zone area, and even within TransCanada's 18 m pipeline RoW, so long as certain requirements are met. TransCanada noted its willingness to continue engaging with York Region and Vaughan to discuss crossings, construction activities within the safety zone, etc.

TransCanada acknowledged it was unable to avoid all lands with development plans but explained it attempted to accommodate future development plans where possible through such measures as reducing the width of the RoW in select areas and designing the depth of the pipeline to avoid existing and planned utilities. TransCanada sought to route non-HDD portions of the RoW within MTO's setback areas to avoid or minimize encroachment on the developers' lands, but MTO would not consent as such encroachments would compromise the design and construction of its future transit plans. TransCanada stated it has ensured that all impacts on private landowners have been or will be reasonably addressed. TransCanada stated that based on its proposed mitigation, the pipeline is not expected to have any material impact on the development potential of any specific parcel of land, and that all impacts on land values and development plans will be addressed through the land acquisition process. In addition, TransCanada explained that it must assess each proposed activity within the safety zone on a case-by-case basis to determine whether there are any risks to the pipeline.

TransCanada committed to continuing engagement with all landowners affected by the project, and to respond to all reasonable requests for additional information outside of the context of the Board's proceeding.

In response to intervenor requests, TransCanada committed to notifying participants when it files its construction schedule with the Board.

Views of Participants

Ontario Ministry of Transportation (MTO)

MTO stated it recognizes the importance of the pipeline project, but expressed concerns about the project (including its schedule) impacting construction and future maintenance of the planned Highway 427 widening and extension, and future transitway along the west side of Highway 427. MTO submitted that the proposed pipeline RoW will not physically encroach into MTO's setback at any locations other than at municipal and regional road crossings. MTO also acknowledged that there has been progress in meetings with TransCanada to discuss HDD alignments and depths.

Corporation of the City of Vaughan

Vaughan raised concerns about the potential for conflict between the proposed pipeline and the stormwater management pond north of Zenway Blvd and a proposed stormwater management pond north of Zenway Blvd and east of New Enterprise Way; Vaughan stated it had no way of confirming TransCanada's assertions that there is no expected conflict between the pipeline and the existing or proposed stormwater management ponds, nor that most of the maintenance activities identified by Vaughan could occur without notice requirements.

Vaughan also expressed concerns about restrictions on future land use and development in the proximity to the project right-of-way and TransCanada's determination that these restrictions are "not significant".

Land Developers

Most of the intervenors, who are land developers, own private lands that will be traversed by TransCanada's proposed pipeline route. These lands are currently being or have plans to be developed as general and/or prestige employment land. These participants stated that their lands will be unnecessarily impacted by permanent setbacks and rights-of-way, with significant portions of their lands being sterilized and/or impacted by delay.

Some landowners stated they cannot proceed with permitting and other necessary steps to development without commitments from TransCanada as to the timing, scope and nature of restrictions it will impose on building and development in the areas of the pipeline RoW, and related setbacks imposed both by TransCanada and the City of Vaughan.

3.2 Land requirements

Views of TransCanada

TransCanada submitted the project is located on municipal and provincial Crown land and privately held freehold land. TransCanada noted that many of the lands traversed by the project are planned as developments for commercial, light industrial, and transportation use. TransCanada originally stated that the permanent easement width would be 18 metres for the proposed route. In response to landowner concerns about the impact of the project on development, TransCanada stated that on Parcels 17a, 17b, 14a, 14b, and 14c the RoW could be reduced to 12 metres.

TransCanada stated it requires temporary work space (TWS) during construction only and not during its operational needs, noting the TWS will be returned to the landowner unencumbered after construction, cleanup, and reclamation. TransCanada explained that the amount of TWS along the route will vary, depending on requirements for HDD pullbacks, access, soil storage and laydown areas.

TransCanada stated that two new aboveground valve sites are required for the project and will be located in fenced areas. The company explained that the launcher and receiver facilities will be located in the fenced areas of the valve sites.

TransCanada stated that the tie-in at the Enbridge Albion Station expansion is expected to be located entirely on Enbridge-owned land while the tie-in at TransCanada's Line 200-2 is likely to be located within the new or existing TransCanada permanent easement.

3.3 Land rights and land acquisition

Views of TransCanada

TransCanada stated it will acquire all necessary land rights for aboveground facilities. TransCanada explained that any impacts on development plans will be subject to negotiation between the parties as part of the land acquisition process. TransCanada stated it could not provide a broad indemnity in the absence of any facts or terms of an agreement, but that pursuant to section 75 of the NEB Act, it is obligated to do as little damage as possible. TransCanada further explained that it intends to reach agreements with all landowners for the necessary land rights for the project, which will include

compensation payable for such rights. The company stated that if TransCanada and any landowner cannot agree on compensation, either party may apply to the Minister of Natural Resources to receive the services of a negotiator, or to have the matter settled by arbitration as provided for in sections 88 to 103 of the NEB Act.

TransCanada stated it will apply for crossing permission wherever the pipeline crosses roads or infrastructure. The company also stated that crossing applications will include detailed plan and profile drawings, and that the specific terms and conditions of any crossing agreements will be subject to negotiation between TransCanada and the landowner. TransCanada explained that based on the *National Energy Board Pipeline Crossing Regulations*, anyone planning ground disturbance more than 0.3 metres deep within the 30 m safety zone must notify TransCanada and obtain TransCanada's permission for the activity, or otherwise obtain leave from the NEB. TransCanada further explained that structural and non-structural developments are permitted within the safety zone subject to the Board's requirements. TransCanada stated it does not allow permanent structures on the pipeline RoW, but certain types of non-structural installations may be acceptable, such as gravel parking lots and landscaping. TransCanada noted that any time a non-structural installation is proposed, the landowner must work with TransCanada to obtain site-specific permission in the form of a crossing or installation agreement.

Views of Participants

Many participants raised the issue of compensation/indemnification for project-related impacts and costs associated with ongoing ownership (for example, taxes, maintenance, insurance). These participants expressed concerns about how TransCanada would indemnify and otherwise protect all interested parties from impacts resulting from the construction, operation, or decommissioning of the pipeline.

3.4 Views of the Board

TransCanada designed a route between two fixed points in a partially congested urban environment that contains many constraints, including existing and proposed highways, existing and planned commercial and light industrial use, a residential area, high-voltage transmission lines and the Claireville Conservation Area. The company described the six different routing possibilities that it assessed, and identified the reasons for selecting the route described in its application. The Board is of the view that when considering all six of the possible routes, the proposed route presents the best balance of construction feasibility, reduced land fragmentation, suitable terrain, paralleling of existing infrastructure, avoidance of current and planned urban development and residential neighbourhoods, and avoidance of high-voltage transmission lines and any archeological resources.

The Board notes that urban development that is still in the planning stage can be designed to accommodate pipelines and that this same opportunity is not available for existing development. The Board is of the view that locating the Project route alongside existing and planned linear disturbances is reasonable as it will minimize the Project's environmental and socio-economic impacts. The Board is of the view that TransCanada appropriately shared its initial proposed route early in the process (late 2013 and early 2014), examined suggested alternative routes, and worked with stakeholders in an effort to resolve routing concerns.

The Board is satisfied that TransCanada has suitable proposed mitigation to address the project's potential land-related effects during design, construction, and operation. The Board finds that the route, as proposed, is acceptable.

The Board recognizes that TransCanada has not resolved all routing concerns to the complete satisfaction of stakeholders but has committed to:

- reducing the pipeline RoW width for some land parcels;
- installing barriers over the pipeline at specific areas where the pipeline crosses a short section of the planned MTO parking lot;
- extending two horizontal bores to provide additional future flexibility to a land developer; and
- accommodating all existing and planned infrastructure.

The Board encourages all parties to continue working together to resolve outstanding issues (for example, access to lands for pre-engineering studies).

The Board also recognizes the concerns expressed by MTO, York Region, Vaughan, and several land developers about cost impacts and their requests for indemnification agreements related to the project. Section 75 of the NEB Act requires companies to do as little damage as possible and make full compensation for all damages sustained by persons as a result of the companies' exercise of their powers under the NEB Act. The NEB Act provides a framework of negotiation and arbitration procedures - that is within the authority of the Minister of Natural Resources, not the Board - for compensation for use of lands or for damages from the construction and operation of the pipeline.

The Board notes that land acquisition agreements must comply with section 86 of the NEB Act. Land acquisition agreements must include provisions for the following:

- compensation for land acquisition, and options for landowners to receive compensation by one lump sum payment, or by annual/periodic payments over a period of time;
- the review, every five years, of the amount of compensation payable in the case of annual/periodic compensation;
- compensation for all damages suffered as a result of the operations of the company;
- indemnification from all liabilities, damages, claims, and actions arising out of the operations of the company, with the exception of matters arising from gross negligence or wilful misconduct of the landowner.

The amount of compensation paid for an easement is negotiated between the company and the landowner. When a landowner and a pipeline company cannot agree on compensation for lands that the company has acquired or damaged, either party may apply to the Minister of Natural Resources to receive the services of a negotiator, or to have the dispute settled by arbitration.

With respect to concerns expressed regarding the location of the pipeline route adjacent to MTO's highway extension and transit plans, the Board recognizes the need for strong communication between TransCanada and MTO to accommodate each other's project plans. The Board notes that TransCanada has committed to meeting with MTO to understand and provide guidance regarding the Ministry's potential construction activities within the Project's safety zone. The Board acknowledges MTO's willingness to accommodate an overlapping of the pipeline RoW into MTO's setback. The Board encourages TransCanada to consult with MTO wherever detailed decisions are to be made with respect to pipeline location and future highway and transit plans.

The requested RoW and TWS, as described in the application and as amended, are necessary to allow for the construction and operation of the project in a safe and efficient manner. Therefore the Board finds that TransCanada's anticipated requirements for permanent and temporary land rights are acceptable.

A number of intervenors proposed very specific conditions associated with the project. Many of these proposed conditions relate to ongoing communications between the intervenor and TransCanada, construction scheduling, and land agreements. TransCanada has already made commitments with respect to many of those concerns during the course of this hearing. The Board's decision on the Project relies in part on commitments made by TransCanada as they address these particular areas of concern. To capture these commitments and to require reporting on them, the Board imposes Condition 3 (Appendix II) requiring TransCanada to file with the Board a commitments tracking table listing all commitments made by TransCanada in its application or in its related submissions, or during the GHW-001-2014 proceeding in relation to the Project.

Chapter 4

Public Consultation

The Board's expectations for an applicant regarding public consultation are set out in the Board's *Filing Manual*. Applicants are expected to undertake an appropriate level of public involvement, commensurate with the setting, nature and magnitude of a project. The Board considers public involvement to be a fundamental component during each phase in the life cycle of a project (project design, construction, operation and maintenance, and abandonment) in order to address potential impacts of that project. This chapter addresses TransCanada's public consultation program. TransCanada's Aboriginal engagement and consultation are discussed in the Aboriginal Matters chapter.

4.1 TransCanada Public Consultation Program

Consultation with landowners and other potentially affected people

Views of TransCanada

The stated principles of TransCanada's stakeholder engagement program for the project are:

- to introduce the project to its stakeholders;
- to seek and consider comments on pipeline routing, facility site selection, potential environmental and socio-economic effects, mitigation measures to address potential project impacts, and enhancement measures to improve potential positive socio-economic effects;
- to identify and address issues and concerns before filing the project application;
- to provide stakeholders with ongoing project updates and changes, as well as relevant Board filings;
- to appropriately consider any stakeholder concerns or issues in project planning, as well as throughout the project's life cycle.

In designing its public consultation program for the project, TransCanada stated it looked to the principles of its stakeholder engagement framework and community relations best practices. The company stated its aim was to foster positive relationships with its stakeholders.

TransCanada stated its consultation program sought to identify landowners and stakeholders potentially affected by the project. TransCanada indicated it identified landowners and occupants whose land will be traversed by the project, including developers, as well as adjacent landowners and occupants within a 1 km radius of the proposed route. Emergency responders and nongovernment organizations were also identified as stakeholders.

Between November 2013 and January 2014, TransCanada undertook preliminary notification and engagement with developers and landowners. Beginning in February 2014, TransCanada stated it broadened its stakeholder engagement plan, continuing the work of its preliminary engagement, as well as hosting a public open house in Vaughan, advertising public notices, sending information mailouts, and posting updates to the project website.

During the third week of July 2014, TransCanada sent all stakeholders a mailout that included a map of the proposed pipeline route and reasons for selecting this route, and a letter stating the company's intention to file its application with the NEB in Q3 2014. TransCanada stated that stakeholders and landowners whose lands will be traversed by the project were also sent details of alternative routes, including a satellite map of the area showing the proposed route and all alternative routes that were considered by TransCanada, as well as the company's rationale for not selecting those routes. TransCanada also stated it would continuously consider stakeholder feedback about the proposed route.

TransCanada stated that in autumn 2014 it sent another letter to all stakeholders and landowners providing a detailed analysis of all route options considered for the project and the reasons for selecting the proposed route. TransCanada explained that this letter was issued in response to requests for an analysis of the proposed route and alternatives. TransCanada stated it met with a number of landowners in December 2014 to discuss the project.

TransCanada committed to continuing engagement with all landowners affected by the project, and to respond to all reasonable requests for additional information outside of the context of the Board's proceeding.

Consultation with government stakeholders

Views of TransCanada

TransCanada stated that it began engaging with provincial agencies, the Toronto Region Conservation Authority, and regional and municipal personnel in November 2013. TransCanada noted it engaged with Hydro One Networks (HONI)/Infrastructure Ontario to discuss the project, HONI's power transmission infrastructure, and land rights. TransCanada indicated it has had ongoing dialogue with the MTO, discussing the King's North project and MTO's plans for the extension and widening of Highway 427. TransCanada also noted that it began engagement specific to Vaughan's West Vaughan Employment Area Secondary Plan, which includes Block 59 and Street "A", in May 2014.

TransCanada noted it will continue to engage with MTO, York Region and Vaughan.

Views of Participants

Vaughan indicated that discussions with TransCanada regarding Block 59 development plans (including Street "A") started in May 2014. Vaughan stated that since that time TransCanada considered a number of pipeline route alternatives, all of which conflicted with Vaughan's plans for Street "A". Ultimately, TransCanada determined it was able to alter the pipeline route to accommodate the Region's Block 59 development plans, although Vaughan noted that a more robust consultation process by TransCanada would have avoided misunderstandings between the two parties.

4.2 Views of the Board

The Board recognizes that public involvement is a fundamental component during each phase throughout the life cycle of a project in order to address potential impacts.

The Board notes that during this hearing process, there appeared to be a number of general land matter concerns pertaining to the project (see Chapter 4). As a result, the Board determined that a technical conference would be useful to assist in understanding the benefits and burdens associated with these land related issues. A technical conference was held on 31 March 2015 in Vaughan and all participants had an opportunity to share their views and ask questions of others. Participants included TransCanada, MTO, Vaughan, York Region, and land developers. The Board acknowledges the efforts made by the parties to attend the technical conference and the progress that was made in resolving outstanding issues.

The Board notes the efforts of TransCanada to work with stakeholders to identify and resolve issues. While the Board notes that TransCanada has stated it ensures that all impacts on landowners have been or will be reasonably addressed, the Board expects TransCanada to continue to work with stakeholders during construction and operation. The Board imposes Condition 11 (Appendix II) requiring TransCanada to create and maintain records to track project-related complaints or concerns by landowners, including municipal and regional governments, and how they have been addressed. The Board notes that this condition is for a period of five years, the time during which the pipeline's construction and operation will be the most disruptive. The Board notes that it is mandated to monitor and enforce compliance over a project's lifetime; once a project is approved, the NEB will monitor and verify compliance with requirements during construction, operation and abandonment. The NEB also investigates compliance as a result of complaints, reports of high-risk activity or incidents.

The NEB *Filing Manual* encourages companies to create plans for future consultation and follow-up throughout the life cycle of a project. The Board encourages TransCanada to provide potentially affected parties with additional project-related information, including timelines for activities on the developers' lands, and a construction schedule.

The Board finds that the design and implementation of TransCanada's public consultation program was adequate given the scale and setting of the project.

Chapter 5

Aboriginal Matters

The Board takes Aboriginal interests and concerns into consideration before it makes any decision that could have an impact on those interests. Whenever a project has the potential to impact the rights or interests of Aboriginal groups, the Board obtains as much evidence as possible in that regard so that it may assess and consider the potential impacts in its decision.

Before filing a project application, applicants are required by the Board's *Filing Manual* to identify, engage and consult with potentially affected Aboriginal groups. The *Filing Manual* also requires that an application include detailed information on any issues or concerns raised by potentially affected Aboriginal groups or that are otherwise identified by the applicant. The Board expects applicants to provide information about the project and initiate early discussions with potentially impacted Aboriginal groups in the planning of the project and report on these activities to the Board: this allows for early exchange of information and for matters of concern to be considered at the onset of the project and through the design phase. The extent of the project-specific consultation activities that needs to be implemented is determined, to a large extent, by the nature, scope, and setting of a project. Aboriginal groups are encouraged to engage with applicants so that their concerns are identified early, considered by the applicant, and potentially resolved before the application is filed. The Board also encourages Aboriginal groups who are directly impacted by a proposed project, or have information and expertise that could help the Board gain a greater understanding of the project under consideration to apply to participate in the hearing process.

5.1 Participation of Aboriginal groups in the regulatory process

The Mississaugas of the New Credit First Nation (MNCFN) applied to participate as an intervenor in the GHW-001-2014 proceeding and was granted Intervenor status by the Board.

The Conseil de la Nation huronne-wendat applied to participate as a commenter in the GHW-001-2014 proceeding and was granted Commenter status by the Board.

No other Aboriginal groups submitted an application to participate in the proceeding.

Aboriginal Engagement by TransCanada

Views of TransCanada

TransCanada stated its Aboriginal engagement process is guided by the company's Aboriginal Relations Policy and that its approach to Aboriginal engagement for this project includes:

- Respecting the diversity of Aboriginal cultures;
- Recognizing the importance of the land;
- Cultivating relationships based on trust and respect;

- Working with Aboriginal communities and organizations to identify and consider potential effects of the project on the current use of lands for traditional activities and to identify and implement appropriate mitigation measures;
- Collaborating with Aboriginal communities and organizations to identify sites of cultural and historical importance to Aboriginal people that might be affected by the project, and considering appropriate mitigation measures.

TransCanada stated it initially engaged in project discussions beginning in November 2013 with the following Aboriginal communities:

- Chippewas of Rama First Nation
- Chippewas of Georgina Island First Nation
- Mississaugas of the New Credit First Nation
- Six Nations of the Grand River Reserve
- Mississaugas of Scugog Island First Nation
- Métis Nation of Ontario

TransCanada stated it emailed project factsheets to identified First Nations communities and the Métis organization, and followed up with telephone calls to each community and organization to determine whether there were any concerns with or interests in the project. TransCanada indicated that all were invited to attend an open house, although no representatives were identified as having attended. TransCanada stated it mailed a letter to each identified Aboriginal community and organization in July 2014, informing them about the proposed project route, the rationale behind the route selection, and the company's intention to file an application with the NEB.

After filing the project application, TransCanada identified the Conseil de la Nation huronne-wendat as a potentially interested and/or affected community, and subsequently engaged with the community.

TransCanada stated it will continue to follow its Aboriginal engagement process through the regulatory approval and construction phases of the project. During the operations phase, TransCanada submitted that regionally based liaison contacts will continue to build and maintain relationships with Aboriginal communities and organizations in the project area.

Views of Participants

Mississaugas of the New Credit First Nation (MNCFN)

MNCFN raised concerns about TransCanada's consultation activities, stating there had been no meaningful consultation to date (as of 12 February 2015). MNCFN explained that it had attempted to engage with TransCanada regarding the project as early as October 2014, but that TransCanada suggested meeting sometime in late January 2015 to discuss MNCFN's draft work plan for capacity support. MNCFN noted that they had scheduled a technical meeting later in February with TransCanada's technical staff.

Conseil de la Nation huronne-wendat

Conseil de la Nation huronne-wendat submitted a letter of comment recommending that there be a framework for information sharing and consultation between Conseil de la Nation huronne-wendat and TransCanada, and both the governments of Ontario and Canada.

TransCanada's Reply

TransCanada provided in its evidence a detailed summary of its engagement with MNCFN. TransCanada also confirmed that it will continue to engage and share information about the project with Aboriginal groups in the Project area.

Impacts of the Project on Aboriginal groups

Views of TransCanada

TransCanada noted that the project is located within the historical boundary of the Upper Canada Treaties, 1764-1836. The company also noted that the project does not cross any lands defined as reserve lands or lands designated for reserve status under the Indian Act. The company submitted that the project footprint and study areas are within the traditional territory of the Mississaugas of the New Credit First Nation, the Six Nations of the Grand River, and the Métis Nation of Ontario. TransCanada also identified the Conseil de la Nation huronne-wendat as a potentially interested and/or affected community based on known Nation huronne-wendat cultural and historic sites located throughout the City of Vaughan and along the Humber River. The company stated that it is not aware of any traditional land uses currently practiced in the area: the project area is located in a predominantly privately-owned land base with urban or agricultural land uses. TransCanada noted this current land tenure and land use precludes, to a large extent, the possibility of traditional activities being practiced on the lands in question. In addition, TransCanada stated the pipeline right-of-way is planned to follow the future 427 Transportation Corridor.

Views of Participants

Mississaugas of the New Credit First Nation

MNCFN expressed concerns that the project could destroy or harm culturally and environmentally sensitive sites within its traditional territory. MNCFN also stated that throughout the project lifespan, any excavation of soil has the potential to damage or destroy archaeological resources, and requested to actively participate in TransCanada's environmental and archeological assessment and monitoring work at any work site that has high archaeological potential or has significant environmental concerns. MNCFN also stated their interest in reviewing project documents from construction planning through to operations and maintenance, to the extent necessary to protect the MNCFN's rights, title and interests.

Conseil de la Nation huronne-wendat

The Conseil de la Nation huronne-wendat stated it is concerned about the strong likelihood that the project will disturb some of their archaeological sites. The Conseil de la Nation huronne-wendat requested the following:

- they be involved in the project's archaeological resource activities as well as the project's environmental/wildlife review process;
- detailed information of the project's construction, including the construction schedule and plans to protect the Conseil de la Nation huronne-wendat's environmental and archeological resources; and
- resources to participate effectively in the review of the project.

TransCanada's Reply

TransCanada stated that both MNCFN and Conseil de la Nation huronne-wendat provided archaeological monitors who participated in archaeological studies for the project, and that TransCanada committed to provide both groups with the opportunity to participate in further archaeological studies, if any take place. TransCanada noted that to date no MNCFN or Conseil de la Nation huronne-wendat archaeological or burial sites have been identified within the project area.

TransCanada noted that its environmental studies have been completed but committed to working with the MNCFN and Conseil de la Nation huronne-wendat to discuss addressing project-specific environmental concerns. TransCanada stated that prior to construction, it will provide the proposed construction schedule to Aboriginal communities potentially impacted by the project.

TransCanada stated it has in place a signed capacity funding agreement with both MNCFN and Conseil de la Nation huronne-wendat (further to approval by Chief and Council).

5.2 Views of the Board

The Board is satisfied that all Aboriginal groups potentially affected by the project were provided with sufficient information about the project and had an opportunity to make their views known to TransCanada and the Board. The Board notes that TransCanada remains committed to working with Conseil de la Nation huronne-wendat and MNCFN to reasonably address any project-specific concerns raised throughout planning, construction and operation of the project, as appropriate. The Board's view is that TransCanada is expected to continue to consult with interested Aboriginal groups throughout the life cycle of the project.

The project area, situated within the historical boundary of the Upper Canada Treaties, 1764-1836 is located within Aboriginal traditional territory, in an urbanized area slated for further development.

The Board notes that to date no MNCFN or Conseil de la Nation huronne-wendat archaeological or burial sites have been identified within the project area. The Board is of the view that given the nature and location of the project, and with the implementation of

TransCanada's commitments, mitigation measures, and fulfillment of regulatory requirements such as its Environmental Protection Plan, any potential project-related impacts on the rights and interests of Aboriginal groups are likely to be minimal and will be appropriately mitigated.

As similarly noted in Chapter 3, the Board observes that Aboriginal participants proposed a number of very specific conditions associated with the project. The Board notes that many of these proposed conditions relate to archaeological, environmental, and resource related concerns, which in the Board's view, were sufficiently addressed by actions or commitments by TransCanada during the course of this hearing, or by existing regulatory requirements. The Board's decision on the project relies in part on commitments made by TransCanada. To capture these commitments and to require reporting on them, the Board imposes Condition 3 (Appendix II) requiring TransCanada to file with the Board a commitments tracking table listing all commitments made by TransCanada in its application or in its related submissions, or during the GHW-001-2014 proceeding in relation to the project.

Chapter 6

Infrastructure and Economy

The Board's expectations for an applicant regarding direct socio-economic impacts caused by the existence of the project are set out in the Board's *Filing Manual*. Applicants are expected to identify and consider the impacts a project may have on infrastructure, services, employment and economy. Applicants are also expected to provide mitigation of negative impacts and the consideration of positive benefits of the project.

Potential socio-economic effects that are caused by changes to the environment are included in Chapter 9, Environment and Socio-Economic Matters. Direct socio-economic effects caused by the existence of the project itself are discussed below. Matters concerning the impact of the project's proposed pipeline route on existing and planned infrastructure are included in Chapter 3, Land Matters.

6.1 Infrastructure and services

Views of TransCanada

TransCanada stated that there are nine municipal roads and three highways crossed by the project footprint, including two 400-series highways. TransCanada noted that public transit also uses these roadways. TransCanada stated that there are key transportation developments planned and/or underway that are considered relevant to the project, including the Highway 427 extension corridor and Western Vaughan Transportation Improvements.

TransCanada noted it will use HDD at varying depths under all major highway, road and rail crossings, and that construction will not be expected to cause closures or affect the structural integrity of transportation infrastructure. TransCanada further noted it will implement the measures contained in the project's Traffic Control Management Plan and the Environmental Protection Plan.

TransCanada stated its pipeline is designed to have significant clearance from the expected depth of existing and planned infrastructure in the project area.

6.2 Economy

Views of TransCanada

TransCanada indicated that most of the project falls in the City of Vaughan, with the pipeline crossing lands classified as general and prestige employment, natural areas, rail facilities, infrastructure and utilities, parkway belt west lands, private open spaces, and employment-commercial mixed use and employment areas. TransCanada further noted that the project area between Langstaff Road and Major Mackenzie Drive between Highway 50 and Highway 27 are referred to as the West Vaughan Employment Area, and are subject to Vaughan's West Vaughan Employment Area Secondary Plan. Running along most of the length of the proposed pipeline route is the planned extension of the 427 Transportation Corridor.

TransCanada submitted that project construction is expected to generate a demand for goods, services, and workers, which in turn will generate direct and indirect business and employment income. TransCanada stated it is committed to maximizing local procurement, where practical, and that it will implement a community investment plan in the municipality of Vaughan, where the majority of the project footprint is located.

Views of Participants

Vaughan claimed that TransCanada did not address the loss in tax revenue from the General Employment or Prestige Employment areas that would not be developed due to the pipeline right-of-way. Vaughan stated that should the pipeline be approved, it would receive less revenues regardless of the final type of development due to the impact of the RoW and possibly the safety zone.

TransCanada's Response

TransCanada stated that it could not address the loss in tax revenue as this form of taxation is regulated by the municipal government, and currently the lands in question have only been assessed as vacant lands. TransCanada explained that the Municipal Property Assessment Corporation (MPAC) would only assess new development on designated employment lands after they have been constructed. TransCanada noted that it does not have information about the assessment values or property tax rates that are determined by MPAC. TransCanada stated it calculated that the estimated annual taxes generated by the pipeline will be approximately $285,000, to be allocated among the City of Vaughan, Region of York, and school boards, with the City of Vaughan's annual portion being approximately $30,000.

6.3 Views of the Board

The Board is satisfied that TransCanada has identified and considered the relevant socio-economic aspects of the project, and has proposed suitable mitigation to address the project's potential socio-economic effects.

The Board notes TransCanada's submission of plans to address the project's socio-economic impacts, including a Traffic Control Management Plan.

The Board notes Vaughan's concern regarding compensation for tax revenue losses and finds there is not sufficient evidence to indicate that the Project will result in lower future tax revenues for Vaughan.

The Board finds that the Project's impacts on infrastructure and services will be adequately addressed. The Board also finds that any adverse socio-economic impacts of the Project will be adequately addressed.

Chapter 7

Economic Feasibility

7.1 Economic feasibility and justification

When making the determination regarding the economic feasibility of the project, the Board assesses the need for the proposed facility and the likelihood of it being used at a reasonable level over its economic life. To make this determination, the Board considers the supply of natural gas that will be available to be shipped on the pipeline, any transportation contracts underpinning a pipeline, the availability of adequate markets to receive natural gas delivered by a pipeline and the likelihood of tolls being paid. The Board also considers other commercial impacts of the proposed facilities and the applicant's ability to finance the construction and ongoing operation and maintenance of the proposed pipeline.

7.1.1 Natural gas supply

Views of TransCanada

TransCanada submits that the Project will facilitate greater access to emerging supplies from the Marcellus and Utica basins which are located in the United States northeast and close to the eastern Canadian markets. Shale gas production from these plays, predominantly Marcellus, has increased from virtually nil in 2006 to over 300 $10^6m^3/d$ (10 Bcf/d) in 2013 and is forecast to reach approximately 600 $10^6m^3/d$ (20 Bcf/d) in 2025. Estimates of recoverable resource reach 4 $10^{12}m^3$ (141 Tcf) for Marcellus and 0.4 $10^{12}m^3$ (16 Tcf) for Utica.

The Project will also allow access to the liquid hub located at Dawn where 9.5 PJs (255 $10^6m^3/d$ or 9 Bcf/d) of gas is traded per day and to natural gas storage in the Dawn area which has a physical working gas capacity of approximately 287 PJ (7,677 10^6m^3 or 271 Bcf).

Views of Participants

No participants expressed concerns regarding available supply.

7.1.1.1 Views of the Board

The Board finds that the natural gas resource in the Marcellus and Utica basins and the volumes of natural gas traded at the liquid hub at Dawn represent adequate supply to support the Project.

7.1.2 Markets

Views of TransCanada

TransCanada submits that the Project is driven by market pressures to increase diversity in supply in eastern Canadian markets. Underpinning the Project is the Settlement Agreement that supports

the efficient development of natural gas infrastructure to improve supply diversity and market access in eastern Canada.

According to TransCanada, natural gas demand in Ontario and Québec is expected to remain relatively stable over time. Demand in domestic residential, commercial and industrial sectors in the two provinces is forecast to grow from approximately 82 $10^6m^3/d$ (2.9 Bcf/d) in 2013 to approximately 83.7 $10^6m^3/d$ (3 Bcf/d) in 2030. Stronger growth is expected in the power-generation sector with demand growing from approximately 11.5 $10^6m^3/d$ (0.4 Bcf/d) in 2013 to approximately 22.8 $10^6m^3/d$ (0.8 Bcf/d) in 2030. However, TransCanada expects that any growth in the domestic markets will be offset by a drop in exports to the United States Northeast. Those are forecast to decline from approximately 21.9 $10^6m^3/d$ (0.9 Bcf/d) in 2013 to approximately 5.7 $10^6m^3/d$ (0.2 Bcf/d) in 2030.

Views of Participants

No participants expressed concerns about the existence of markets for the gas to be transported on the Project.

Union submitted that the development of new, prolific production regions allows consumers to source their natural gas closer to markets. Consequently, consumers in eastern Canada shift their supply sources from western Canada to Dawn or the Marcellus and Utica regions. Union stated that the 110,000 GJ/d of natural gas expected to flow on the Project as a result of agreements executed by Union with TransCanada will provide diversity of supply and cost savings to Union's customers in Ontario.

Enbridge submitted that the Project will facilitate access to abundant and lower cost natural gas reserves for eastern Canadian markets. A better access to the Marcellus and Utica basins offers an opportunity to improve diversity and reliability, at lower cost than Western Canadian Sedimentary Basin supplies. Enbridge stated that the Ontario Energy Board confirmed that the diversity of natural gas supply is important for Ontario natural gas users and that it helps mitigate uncertainties and volatility in gas supply.

Gaz Métro noted that whereas, historically, it purchased all of its gas from Alberta at Empress, it now purchases most of its gas at Dawn. This shift has been approved by the Régie de l'énergie who recognized that sourcing natural gas at Dawn allows more flexibility to Gaz Métro and its clients.

The Government of Quebec expects that the Project will allow Quebec's consumers to access adequate supply at competitive prices. Any delay to the Project will translate into higher costs for Quebec's consumers, underlying the importance of the Project for the province.

7.1.2.1 Views of the Board

The Board is satisfied that there will be sufficient natural gas demand from markets to underpin the construction and operation of the Project. The Board accepts that consumers' demand for increased supply diversity and for access to supply sources located closer to markets provide sufficient support for the Project.

7.2 Transportation, pipeline capacity and commercial engagement

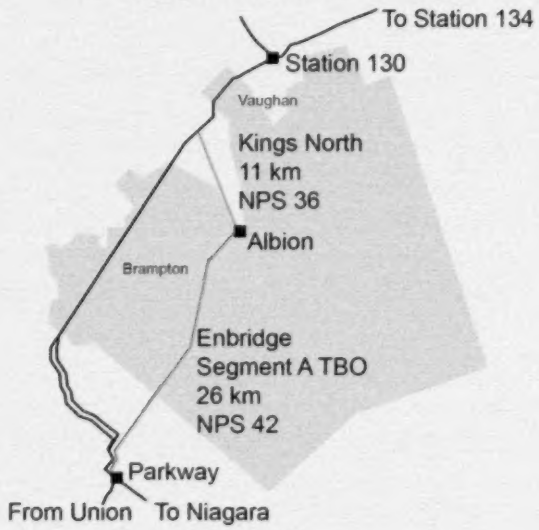
7.2.1 Transportation and throughput

The Project is underpinned by five new requests for 15 years of firm transportation services starting in November 2015, submitted by Gaz Métro and Union. The five requests sum up to 364,475 GJ/d.

TransCanada stated that the Project will receive gas from Enbridge's Segment A pipeline through a Transportation by Others (TBO) arrangement. The proposed Segment A pipeline and the Albion Station expansion are part of Enbridge's GTA Project which has received approval from the Ontario Energy Board. Enbridge will require approximately 800 TJ/d of capacity of the Segment A pipeline which will have a total capacity of approximately 2000 TJ/d.

The Project and the TBO will act as a partial loop of TransCanada's Mainline facilities between Parkway and the Maple Compressor Station (Station 130) and are both needed to meet the new service commitments. Segment A will receive gas from a Union pipeline at Parkway which will be the receipt point for the Project. A portion of the gas received at Parkway will flow onto the existing Mainline System and a portion will flow on Segment A and then onto the Project (Figure 7-1).

Figure 7-1: Proposed Flow



Further upstream of Enbridge's Segment A pipeline, Brantford-Kirkwall/Parkway D Project and Parkway West Project proposed by Union received regulatory approvals and are anticipated to increase the gas available to the Project.

TransCanada used Station 130 to measure the facilities' capability. During the winter 2015-2016, firm contracted requirements through Station 130, including the new service requests associated with the Project, reach 2393 TJ/d. TransCanada submitted that without the applied-for facilities, there would be a shortfall of capability of 306 TJ/d. With the Project, the capability of the system will exceed the contractual requirements by 194 TJ/d.

Views of Participants

No participants expressed concerns regarding Project's capability to transport the contracted volumes.

Union noted that the Project is one component of an infrastructure built out required to improve market access for Ontario and Québec consumers. A lack of alignment between in service dates of projects proposed by Union, Enbridge and TransCanada would be detrimental to those consumers. Union submitted that one of its proposed facilities, the Brantford to Kirkwall Pipeline, has been approved by the Ontario Energy Board on the condition that the NEB approves TransCanada's King's North Project. However, in order to meet the 1 November 2015 in-service date, Union asserted in correspondence to TransCanada that it had no alternative other than to begin work and make the necessary capital commitments related to the Brantford-Kirkwall pipeline.

Enbridge stated that the Project is needed to fully utilize Enbridge's GTA project which will provide incremental market access to Dawn and alternative supply basins for customers in eastern Ontario and Quebec. The Segment A of the GTA Project will enable Enbridge to provide access to an additional 800 TJ per day of capacity from Dawn and Niagara and it has the potential to provide an additional 1,200 TJ per day of capacity to the rest of Ontario and to Quebec.

Gaz Métro stated that the Project is needed to eliminate the existing capacity bottleneck between Parkway and Maple. The Project would allow Gaz Métro to use short-haul capacity and optimize its transportation costs as of winter 2015-2016. If the Project does not come into service as expected, Gaz Métro would have to continue using the more expensive long-haul transportation service and bear stranded costs of unutilized contracted capacity between Dawn and Parkway.

Government of Québec submitted that the existing bottleneck between Parkway and Maple could lower the competitiveness of Québec commercial and industrial sectors. This bottleneck has to be eliminated for Québec consumers to access supply at Dawn on the same terms as consumers from other parts of Canada and the United States.

7.2.2 Alternatives and sizing

Views of TransCanada

TransCanada submitted that the considered alternatives for the Project included a facility alternative and a pipe size alternative. The facility alternative consisted of an approximately 33 km of NPS 42 loop in a new right-of-way northwest of Brampton. According to TransCanada, this alternative would result in increased land disruption and a higher combined transportation cost to the end user. TransCanada also considered a smaller, 762 mm (NPS 30) pipeline but concluded that this alternative pipe size would not match the capability of Enbridge's Segment A pipeline.

TransCanada considered a pipe size of NPS 42 but noted that it develops facilities to accommodate existing firm service requirements and that future service requirements in the area are uncertain due to the likelihood of reduced deliveries to export markets TransCanada concluded that the most cost effective measure to increase capability, should it be required in the future, was to add a compressor unit at Station 130 (Maple).

Views of Participants

Alberta Northeast Gas Limited (ANE) submitted that the Project may be incorrectly sized. The facilities are fully subscribed and are insufficient to accommodate all TransCanada shippers requiring firm capacity. ANE noted that some of ANE's members face capacity constraints in the Eastern Triangle and require incremental capacity. For that reason ANE requested that a new open season should be conducted prior to the filing of the Section 58 Application associated with the Project.

7.2.3 Contracting process and open season

Views of TransCanada

TransCanada held a NCOS from 30 March 2012 until 4 May 2012, which resulted in both Union Gas Limited and Gaz Métro Limited Partnership entering into Precedent Agreements underpinning the project and accounting for the full capacity of the pipeline.

On 3 July 2014, TransCanada provided a presentation to the Mainline Tolls Task Force (TTF) on the status of its 2015 facility expansion plans during which TransCanada outlined the firm service shipper commitments that underpinned the Project and provided details on the location and type of expansion required to meet these contractual obligations.

Alberta Northeast Gas Limited (ANE) stated that it was not aware of the NCOS that was described in the TTF presentation and consequently requested that TransCanada conduct a new open season.

TransCanada's letter responding to ANE explained that when TransCanada notified commercial third parties of the Project at the TTF on 3 July 2014, the dates of the NCOS were incorrect in the presentation. This led ANE to believe there had been an open season of which it had not been aware. On 31 July 2014, TransCanada issued a revised version of the TTF presentation to all its members updating Project cost information and correcting the error in the stated date of the NCOS. TransCanada requested that any further comments based on this update be provided by 11 August 2014. No comments were received. TransCanada also responded that it could not grant ANE's request to conduct another open season since this would push the in service date to 2016 and would be unfair and unacceptable to the parties who did bid during the NCOS.

TransCanada held a Turnback Open Season where it provided an opportunity for parties with existing transportation contracts to exit their contract early, if doing so would reduce the facility additions associated with meeting new service requests. No bids were received.

Enbridge, Gaz Métro and Union provided comments in support of the Project and urged that the Project proceed without delay since this Project was an integral part of the 2013-2030 Mainline Settlement Agreement and that the Ontario Energy Board approved facility expansions in the Enbridge and Union franchise areas are reliant upon the project.

7.2.4 Views of the Board

The Board finds that there is sufficient commercial support for the project in the form of signed Precedent Agreements. Also, the Project addresses an existing bottleneck and will improve access to growing and competitive sources of natural gas supply for Quebec and Ontario customers. Furthermore, the capacity of the proposed pipeline is appropriate to transport the associated volumes to downstream markets and the applicant sized the facilities appropriately to accommodate existing firm service requirements. The Board finds that the applied-for facilities would be used at reasonable levels over their economic life.

The Board also finds that the NCOS process was conducted in a fair and transparent manner and notes that ANE had an opportunity to participate in the 2012 NCOS. Conducting a new open season for capacity on the Project would delay construction and be unfair to parties who did participate in the 2012 open season. TransCanada's use of its shipper task force to update and distribute information to its shippers and potential shippers ensured that information was relayed equally and without discrimination.

7.3 Project costs, financing and impact to tolls

Views of TransCanada

The 2013-2030 Mainline Settlement Application tolls were calculated based on an initial capital cost of $126 million for the Project and an annual cost of $12 million for the TBO arrangement. TransCanada submitted a revised capital cost of $227 million for the Project and approximately $20 million per year for the TBO arrangement.

TransCanada stated that since the time of the initial capital cost estimate in October 2013, the capital costs of the project have more than doubled for a number of reasons which includes the increase in the pace of commercial light industrial and other development in the Project area. TransCanada also gained a better understanding of the development plans of various parties and commenced its appraisal work for the lands required for the Project. As a result, the capital cost estimate increased, primarily because additional HDD were added to the Project scope to avoid or reduce impact on existing and future infrastructure. Also, the market value for land in the Project area was higher than initially estimated.

TransCanada stated that Project construction would be funded through cash flow generated from operations and new senior debt. It would also consider a combination of other funding options, such as subordinated capital in the form of additional preferred shares and hybrid securities, issuance of common shares and portfolio management. TransCanada is of the view that its liquidity, access to capital markets and strong financial position provided significant financial flexibility. According to the report by Moody's Investor Service, Inc., TransCanada's investment grade credit rating was driven by its generally predictable and growing cash flow, large size and portfolio diversification benefits. TransCanada and TransCanada Corporation have been assigned "A" level investment grade credit ratings by Moody's Investor Service, Inc., Standard and Poor's in the United States as well as by DBRS Limited in Canada.

The tolls for this Project were approved as a part of the 2013-2030 TransCanada Mainline Settlement Application where other interrelated tolling, tariff and facilities issues were also addressed. As such, TransCanada is not seeking approval pursuant to Part IV of the NEB Act in this application. On average, the 2016-2020 annual cost of service will increase by approximately $42 million as a result of this Project based on the revised project costs. Along with other potential changes to inputs in the toll calculation, TransCanada was of the view that the changes were not expected to have a significant impact on the proposed 2013-2030 Mainline Settlement. In TransCanada's view, because of the integrated nature of this project with the Settlement Agreement, it was difficult to determine a specific impact of the Project in isolation.

According to TransCanada, the initial abandonment cost estimate for the proposed facilities is $1.7 million compared to $2.4 billion for the entire TransCanada Mainline System. In TransCanada's view, the abandonment service surcharge would not be significantly impacted as a result of this added facility.

Views of Participants

Gaz Métro stated that it agreed to bear the short-haul toll impact submitted in the proceeding, even though it reflected a change in the Project costs from the initial estimate.

Union stated that the RH-001-2014 decision approved increased tolls on the TransCanada Mainline. Union's expectation was that, in exchange for increased tolls, TransCanada would have the necessary incentives to provide access to supply at Dawn and Niagara/Chippawa. Union stated that it therefore supports an expeditious adjudication and approval of the Project.

7.3.1 Views of the Board

The Board notes that no parties expressed concerns regarding TransCanada's proposed project costs, proposed method of financing or its ability to finance the project. Given TransCanada's favorable investment ratings and its financial capacity, the Board accepts that TransCanada has the ability to finance the construction of the Project and place it into operation. The Board recognizes that financial risk is further mitigated through long term Precedent Agreements executed by Union and Gaz Métro for the full capacity of the pipeline.

Chapter 8

Safety, security and emergency response

8.1 TransCanada's emergency preparedness and response planning

The NEB expects pipeline companies to operate in a systematic, comprehensive and proactive manner that anticipates and manages risks. The Board also expects that companies have fully-developed and implemented management systems and protection programs that provide for continuous improvement. A carefully-designed and well-implemented management system supports a strong culture of safety and is fundamental to keeping people safe and protecting the environment. Such management systems must also take account of the roles and involvement of third parties, where appropriate, and are further described below.

The NEB requires all of its regulated pipeline companies to anticipate, prevent, manage and mitigate potentially dangerous conditions associated with their facilities. With respect to emergency response, the Board notes that TransCanada must fulfill sections 33 to 35 of OPR for continued liaison with agencies and persons that may be involved in an emergency response and for the ongoing implementation of a Continuing Education Program for emergency response.

In order to fully comply with the OPR, and meet the Board's expectations, a complete emergency management program must include response plans, means of training personnel to execute those plans, means of conducting exercises to practice and test the implementation of those plans, means of evaluating the plans when carried out during training exercises or true incidents, and the identification, location, and maintenance of suitable equipment to carry out the plans. An emergency management program requires that all these elements be appropriate, and effective, throughout the lifecycle and operation of a project and the changing conditions both within and outside of a pipeline.

In order to determine compliance with the emergency management program requirements of the OPR, the Board conducts compliance verification activities on every aspect of this program. These activities include reviews of manuals, compliance screening meetings, implementation assessment meetings, information exchange meetings, inspections, and audits. The Board also participates in emergency response exercises as required by the scale of the exercise. During the course of its compliance verification activities, the Board assesses the adequacy, effectiveness and implementation of a company's emergency management system, program and emergency procedure manual(s). The Board's compliance activities are risk-informed and adaptable to take into account changes in a company's facilities or performance.

Views of TransCanada

TransCanada indicated that the Project facilities will be incorporated in TransCanada's emergency management system and any related operating procedures. For the operations phase, TransCanada stated that the company will implement its emergency management program which is consistent with the OPR and CSA Z731 (Emergency Preparedness and Response) and will govern all aspects of emergency preparedness and response.

TransCanada indicated that once the project is in service, the company will use its emergency management system to manage emergency events associated with facilities. The company also indicated that it will utilize the incident command system and address an incident in a unified command approach with local emergency services.

TransCanada indicated that its public awareness identified emergency responders as a stake holder and that the company will work with external emergency response personnel to ensure appropriate communication protocols, operations and product awareness and understanding of TransCanada's emergency response procedures. This will help ensure that the company's emergency plans are appropriately coordinated with the emergency response plans of other affected agencies.

TransCanada indicated that it monitors its pipeline 24 hours a day, 365 days a year and uses satellite technology to send data to a monitoring centre every five seconds. If a drop in pressure is detected, the problem area is immediately identified and that section of the pipe is remotely isolated, closing the valves that control the flow of gas. Trained crews are dispatched by land or helicopter, depending on the location of the leak and work closely with authorities, emergency responders and the media to ensure residents in the area are aware of the situation and are safe.

TransCanada stated that the company will develop an emergency response plan that will be implemented in the event of sediment releases or spills of deleterious substances during the construction of the trenchless crossings.

TransCanada submitted the baseline conditions for key indicators within the Socio-economic Study Area, such as emergency and protective services (fire, police, medical) for the Cities of Brampton, Mississauga, Toronto and Vaughan. TransCanada also submitted the resources available (i.e., pumpers, cruisers, ambulances etc.) for these services.

TransCanada stated that the company will have an emergency response plan for the Project that meets or exceeds regulatory requirements. TransCanada currently has operations in the area and will adapt its response plans to include the Project. TransCanada stated that it will communicate with emergency response personnel in the area and work co-operatively to link company emergency plans appropriately into plans maintained by other affected agencies. TransCanada also indicated that the Project Emergency Response Plan will be developed and implemented in consultation with emergency service providers in the Socio-economic Study Area so that roles and responsibilities are understood and the necessary resources required to respond are in place.

TransCanada indicated that as the Project transitions from construction to operations, TransCanada will continue to build and maintain relationships through consistent and ongoing communication with First Nations and Métis communities and organizations, and stakeholders (including municipalities and emergency responders). TransCanada said that it will continue to, among other tasks, provide information on emergency response activities and pipeline integrity and address and resolve topics as required.

TransCanada said that the Project has been designed, and will be constructed and operated, using applicable standards and industry best practices and Project-specific mitigation identified in the Environmental Screening Assessment (ESA) report and the Environmental Protection Plan (EPP). These measures are expected to limit the potential occurrence of an accident or malfunction related

to the Project. In the case of an accident or malfunction, TransCanada's Spill Contingency Plan and Emergency Response Plan will be followed.

In response to a request by the MTO for a copy of TransCanada's Emergency Response Plan, TransCanada stated that it typically does not provide its emergency response plans to external parties as they contain confidential information related to the security of TransCanada's pipeline operations. TransCanada did however commit to meeting with MTO representatives to ensure that safety or security concerns of either party are addressed efficiently.

Views of Participants

The MTO stated that it is a responsible and accountable Provincial Road Authority and as such, the Ministry requested a copy of TransCanada's Emergency Response Plan given that the pipeline runs adjacent to a vital transportation corridor within the Greater Toronto Area freeway network.

8.1.1 Views of the Board

The Board finds that the measures proposed by TransCanada to address emergency preparedness and response are appropriate. As an NEB-regulated company, TransCanada must meet the requirements of the OPR described above. By meeting these requirements, TransCanada will be able to effectively respond to an incident, helping to minimize impacts to the environment and to property as well as to the safety of workers and the public. The Board has included a condition requiring TransCanada to submit a Field Emergency Preparedness and Response Plan that it will implement in the event an emergency occurs during construction activities.

Sections 33 to 35 of the OPR address emergency management liaison, continuing education and consultation requirements with affected and potentially impacted parties. The Board expects that TransCanada will consult with the appropriate parties, including the Ministry of Transportation, and make available to them the relevant information that is consistent with that which is specified in the emergency procedures manual. The Board also expects TransCanada's consultation and communication with impacted parties to be, ongoing and collaborative. This includes, but is not limited to, a discussion on the necessary procedures to be implemented if emergency work is to be carried out by the MTO in the vicinity of the Project, during pipeline construction activities.

8.2 TransCanada's safety and security matters

In accordance with the OPR, regulated companies are required to implement mitigative and preventative measures for all risks posed by hazards and threats to the integrity of pipeline systems, the public and workers, and to the environment. The Board monitors a company's compliance with the conditions of approval and with legislation during all stages of the construction and operation of a project. The Board evaluates the need for specific compliance verification activities and determines whether an on-site inspection or review of the company's management systems (audit) is necessary. This includes an evaluation of company programs to address safety and security.

Views of TransCanada

TransCanada noted that the company's Corporate Security Policy and TransCanada Operating Procedures (TOPs) will govern security management during construction and operations which adhere to CSA Standard Z246.1 for security management.

In its application, TransCanada indicated that all activities associated with the Project, including health, safety and environmental performance, will meet or exceed applicable laws and regulations. TransCanada also indicated that its Health, Safety and Environment Management System (HSE MS) conforms to industry standards and is aligned with the management system requirements outlined in the OPR and that the HSE MS Framework will apply to the complete life cycle of the Project, from design and construction, through to operations and either to sale or ultimate abandonment.

Views of Participants

The MTO expressed safety concerns for the travelling public with the placement of a high-pressure gas pipeline within or adjacent to the MTO's right-of-way. The MTO indicated that the route proposed by TransCanada (including pipeline, pipeline easement and required 30-metre safety zone) falls adjacent to and in some areas within MTO's right-of-way and/or overlapping MTO's 14-metre setback.

TransCanada Reply

In response to travelling public safety concerns raised by the MTO, TransCanada submitted that its pipeline would be routed outside the MTO's right-of-way and 14 meter setback, except at crossings at significant depth. The company also stated that many of its existing pipelines parallel roads and highways to minimize land disturbance, and that its pipelines are constructed and operated in compliance with applicable codes and standards.

TransCanada committed to on-going dialogue with the MTO to discuss and understand its potential construction activities within the safety zone and to provide guidance on the types of conditions that could potentially be required, if any, to ensure the safe operation and integrity of the pipeline. TransCanada also stated it has experience with MTO related construction projects in proximity to its pipeline RoWs and that given this experience, the company is able to work with the MTO to reasonably address its safety zone concerns.

8.2.1 Views of the Board

The safety of Canadians and protection of the environment in the construction, operation and abandonment of pipelines are the Board's top priorities. The NEB works to inform Canadians living and working around pipelines to promote their continued safety, and to make sure they understand their rights and responsibilities.

The Board requires companies to address safety and security considerations, including emergency response planning and third-party damage prevention in their applications for facilities. The Board notes that the Project will become part of a much larger system which is already in place and has been operating for a number of years. The Board is satisfied that

the Project will be incorporated into, and form an element of, TransCanada's existing Health, Safety and Environment Management System Framework addressing legislative requirements for Project-related health, safety and environmental activities. To facilitate the ongoing review by the NEB of TransCanada's safety plans and performance, the Board finds that TransCanada must file the following manual and reports with the Board:

- Construction Safety Manual – 14 days prior to commencing construction;
- Bi-weekly construction progress reports which include information on environmental, safety and security issues; issues of non-compliance, and measures undertaken for their resolution.

The Board has also included a condition requiring TransCanada to confirm that a Project specific Security Management Plan has been developed. The Security Management Plan would facilitate the Board's review of TransCanada security management approach with respect to the Project.

Lastly, the Board accepts TransCanada's commitment to continue its efforts to engage in and maintain effective and timely consultation activities with the MTO as appropriate, throughout the lifecycle of the Project.

Chapter 9

Environmental and Socio-Economic Matters

Under the NEB Act, the Board considers environmental protection as a component of the public interest. When making its decision, the Board is responsible for assessing the environmental and socio-economic effects of the project throughout the life of the project.

The Board is of the view that, with the implementation of TransCanada's environmental protection procedures and mitigation and the Board's conditions, the Project is not likely to cause significant adverse environmental effects.

This chapter represents the NEB's environmental assessment.

9.1 The NEB's environmental assessment methodology

In assessing the environmental and socio-economic effects of the Project, the NEB used an issue-based approach as set out in the NEB's *Filing Manual* for applicants.

This assessment begins with: (a) a description of the Project (subsection 9.2), (b) a description of the setting and the environmental and socio-economic elements within that setting (subsection 9.3), and (c) a summary of those environmental and socio-economic concerns raised by the public (subsection 9.4). Based on these, the NEB identified Project-environment interactions expected to occur (subsection 9.5; Table 9-3). If there were no expected Project-environment interactions or interactions would be positive or neutral then no further examination was deemed necessary.

The NEB then assessed the potential adverse environmental and socio-economic effects, as well as the adequacy of the applicant's proposed environmental protection strategies and mitigation measures (subsection 9.5). Subsection 9.5.3 discusses the extent to which standard mitigation is relied on to mitigate potential adverse effects. In subsection 9.5.4, the NEB provides detailed analysis for issues that are of public concern or of environmental consequence, and that may require additional mitigation. For each issue considered in detail, Views of the Board are provided and the Board assesses whether further mitigation is recommended by way of condition on any potential project authorization, in order to ensure any potential environmental and socio-economic effects would not be significant. Where there are any residual effects remaining after proposed mitigation, cumulative effects are considered in the following subsection (9.6). The NEB's conclusion on significance is given in subsection 9.7.

9.2 Project details

Chapter 1 of these Reasons for Decision provides a general description of the Project.
The following table provides further details on Project components and activities that are relevant to the EA.

Table 9-1: Project Components and/or Activities

Project Components and/or Activities
Construction Phase – Timeframe: after receipt of Board approval and clearance of any pre-construction conditions, construction of the Project is expected to take 9 to 12 months, depending on seasonal and environmental conditions.
▪ Construction of approximately 11 km of new buried pipeline, which would parallel existing and planned linear disturbances, including transportation corridors and transmission lines, for approximately 88% of its length.
▪ Permanent 18 m wide RoW totaling approximately 19 hectare (ha) (including trenchless crossings) and temporary workspace (TWS) (construction activities, staging areas, temporary access roads) of approximately 67 ha, for a total Project footprint of 86 ha. Additional TWS will be determined as needed (e.g., for HDD locations, safety and pipeline deflection areas).
▪ New tie-in valve at Enbridge's Albion Station expansion and new mainline valve at existing TransCanada Mainline (Line 200-2).
▪ RoW clearing and preparation – minimum construction width of 32 m to provide for TWS
▪ Soil salvage/handling, grading, stringing, welding, trenching, lowering-in, backfilling
▪ Trenchless crossings (HDD or boring) at all roads and a railway
▪ Seven trenchless and 10 trenched (open cut, dry or frozen, isolation) watercourse crossings
▪ Pressure testing with hydrostatic test medium trucked in from municipal sources
▪ Cleanup and reclamation
Operation Phase – Timeframe: Service life of the Project - the Project is expected to be in service for at least 30 years.
▪ Vegetation and weed management as required
▪ Regular aerial patrols throughout the life of the Project
▪ Maintenance integrity digs as required
▪ Cathodic protection to prevent pipeline corrosion over the service life of the pipeline
Abandonment Phase – Timeframe: At the end of the service life of the Project
▪ Pursuant to the NEB Act, an application would be required to abandon the facility, at which time the environmental effects would be assessed by the NEB.

9.3 Environmental setting

Land use

- Located in the GTA, primarily in the City of Vaughan (90%), with approximately 6% in the City of Toronto and 4% in the City of Brampton.
- Majority of land use is agricultural, industrial or commercial. A small southern portion (3.3 ha) of the Project footprint is within the Claireville Conservation Area (CCA). Remnant natural areas are isolated and fragmented, and often associated with the riparian habitat retained along watercourses. Extensive areas are being developed or slated for development in the near future.
- The proposed Project is not located on any federal lands.

Physical environment and soils

- Located in the Peel Plain Physiographic Region, an area of level to undulating landscapes dissected by the Humber River and its tributaries.
- Soils within the proposed Project footprint are typically Peel and Cashel series, moderately well to imperfectly drained, clayey glacio-lacustrine veneer over clayey till. Wind erosion risk is considered low, water erosion risk is considered low to medium (unless slopes are greater than 5%) and compaction and rutting risk ranges from medium to high. Borehole logs showed no indication of cobbles, boulder or bedrock within trench depth.
- Thirty-six sites in the vicinity of the Project were identified as potential sources of soil contamination based on historical land use. Only one site is located within the proposed Project footprint, and is not expected to be disturbed by the Project activities as it is within a proposed TWS.

Vegetation

- Ecological Land Classification identified the majority of the proposed Project footprint (total 85.16 ha) as Agricultural (49.44 ha), followed by Anthropogenic (21.93 ha), Terrestrial (10.17 ha), Wetland (3.15 ha) and Aquatic (0.47 ha).
- Nine plant species identified as invasive or noxious in Ontario are known to occur within the terrestrial Local Study Area (LSA) (non-native bush honeysuckles, common buckthorn, dog-strangling vine, garlic mustard, common reed, Canada thistle, knapweed, milkweed, and poison ivy).
- No known rare vegetation communities or plant species with special conservation status listed under the *Species at Risk Act* (SARA) or by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) were found during field surveys conducted for the Project.

Water quality and quantity

Surface water

- The proposed Project lies within the Humber River basin, which drains into Lake Ontario.
- The Project footprint crosses 17 waterbodies, including three named watercourses (Albion Creek, Rainbow Creek, and Robinson Creek) and seven of their tributaries, three unnamed ponds and four drainages. None of these are navigable.
- Watercourses within the Project footprint have historically been, and continue to be, affected by uncontrolled agricultural and urban surface water runoff, limited riparian cover and vegetation and stormwater discharges, and for many of them, water quality regularly fails to meet provincial water quality objectives.

Groundwater

- Private well owners are the principal groundwater users in the groundwater LSA. Of the 60 active drilled water wells in the groundwater LSA, 21 are less than 15 m in depth. Six of these are listed as water supply wells, mainly for domestic use but also for livestock or commercial use.

Aquatic species

- Urban development has resulted in significant deterioration of the water quantity and quality, profound negative effects on fish populations and fish habitat, and changes in thermal regime. Riparian areas along most watercourses in the aquatic LSA have been altered by aggressive urban development.
- Watercourses that cross the Project footprint generally support a variety of tolerant, commonly occurring forage and bait fish species. Typical species include White Sucker and darters. Where fish habitat is present, habitat quality ranges from low to moderate.
- Rainbow Creek is the only watercourse where moderate quality habitat for fish is present. Rainbow Creek is important at the landscape level because it is one of the few remaining watercourses that contains a relatively high amount of natural riparian cover, has permanent flow and supports a number of warmwater fish species that are common to the Humber River watershed.
- There are no SARA Schedule 1 fish species found within the Project footprint. Redside Dace, listed as Endangered by COSEWIC and under the Ontario *Endangered Species Act*, has the potential to occur within Robinson Creek and its tributaries; however, Redside Dace is not widely present in the watershed, and there are no reported occurrences within watercourse segments crossing the Project footprint. The Ontario Ministry of Natural Resources and Forestry (MNRF) has designated Robinson Creek as Redside Dace habitat and this watercourse is protected under the Ontario *Endangered Species Act*.
- A variety of mussel species, as well as several invasive and exotic species including Rusty crayfish and Round Goby, is known to occur within the watershed.

Wetlands

- There are no known Ramsar international wetlands, federal wetlands, or provincially or regionally significant wetlands in the vicinity of the proposed Project.
- The Project footprint intersects wetlands in nine locations, with wetland types consisting of five deciduous swamps, three thicket swamps, and one meadow marsh.

Wildlife and wildlife habitat

- The wildlife communities in the area are generally characterized by species that have adapted to the fragmented anthropogenic landscape and associated industrial and agricultural disturbances. Most wildlife is concentrated in remnant natural areas and along riparian corridors associated with local watercourses.
- Based on desktop studies, eight federally-listed wildlife species at risk were deemed to have a high probability of occurring in the vicinity of the Project (Table 9-2).

Table 9-2: Federal Species at Risk with a high probability of occurring in the vicinity of the Project

Species at Risk	
Endangered	
Little Brown Myotis [a]	*Species at Risk Act* (SARA) Schedule 1 and COSEWIC
Threatened	
Western Chorus Frog [a]	SARA Schedule 1 and COSEWIC
Barn Swallow [a, b]	COSEWIC
Bank Swallow [a, b]	COSEWIC
Bobolink[c]	COSEWIC
Wood Thrush[c]	COSEWIC
Blanding's Turtle[c]	SARA Schedule 1 and COSEWIC
Special Concern	
Eastern Wood-pewee [d]	COSEWIC

[a] observed (or recent evidence of) during Project-specific wildlife surveys
[b] incidental observations but no suitable nesting habitat observed in Project footprint during Project-specific wildlife surveys
[c] not observed in Project-specific wildlife surveys
[d] incidental observation; no evidence of breeding/nesting

- Of these eight species, targeted field surveys confirmed the presence of Western Chorus Frog and Little Brown Myotis within suitable habitats in or near the Project footprint; therefore, these two species were assessed for predicted residual effects.
- Surveys identified 1.9 ha of potential bat maternity roosting habitat within the Project footprint.

- Western Chorus Frog has previously been identified within the Project footprint at three woodlands near KP 6 to KP 7. TransCanada committed to conduct a pre-construction survey for Western Chorus Frog in the area during the appropriate season. Western Chorus Frog has also been documented recently within the CCA, but outside of the Project footprint.
- The provincially-listed Small-footed Myotis (bat) was observed during Project-specific field studies. Due to their similar life histories, mitigation applicable to Little Brown Myotis is considered to be suitable for this species.

Atmospheric and acoustic environment

- Air quality was characterized using background air concentrations from literature and monitoring data from three air quality monitoring stations: Brampton, Mississauga, and Toronto West. The reported air quality values are below Ontario Ambient Air Quality Objectives for sulphur dioxide (SO_2), nitrogen dioxide (NO_2), and carbon monoxide (CO). The average monitoring values for 24-hour $PM_{2.5}$ (fine particulate matter) are below the Canada-Wide Standard, as are the average 98th percentile values; however, there have been exceedances at all three monitoring stations over the past decade. Air quality in the Project area is primarily a result of anthropogenic sources of emissions, such as vehicle and rail traffic, and the 20 industrial facilities located in the air emissions LSA.
- Ambient noise in the Project area is primarily caused by transportation sources, mainly vehicle traffic.

Human occupancy and resource use

- In 2011, the total population of the socio-economic study area was 4,140,715.
- There are no Aboriginal reserves or Aboriginal communities in the Project area.
- There are no provincial, national or municipal parks in the Project area. Three campgrounds in the CCA are located within the Project's resource use LSA. The CCA did not apply to participate in this hearing, nor did it submit any correspondence to the Board regarding the application.
- There are agricultural lands throughout the Project area, although much of the area is planned for future development. Few fishing or hunting opportunities exist in the Project area, except for the Humber River which runs through the CCA.

Heritage resources

- There are no known heritage resources in the Project area.
- No archaeological sites fall within 70 m of the local study area.
- Portions of the archaeological regional study area have been subject to Stage 1 and Stage 2 archaeological assessments and select areas have been granted clearance under the *Ontario Heritage Act* following Stage 2 assessment.

Traditional land and resource use

- There is no known traditional land use currently practiced in the LSA or Regional Study Area (RSA) due to the predominantly privately-owned land base and urban or agricultural land uses throughout the Project area.

9.4 Environmental issues of public concern

The NEB received only a few submissions from participants that raised particular concerns related to environmental issues. The table below summarizes the topics of concern.

Table 9-3: Environmental Issues Raised By Participants

Participant	Environmental Issue(s) Raised	Addressed in Section
Mississaugas of the New Credit First Nation	▪ Impacts to culturally and environmentally sensitive sites within traditional territory	9.5.3 9.5.3.2
Conseil de la Nation huronne-wendat	▪ Impacts to environment and archaeological resources within traditional territory	9.5.3 9.5.3.2
Corporation of the City of Vaughan	▪ Impacts to Core Features of Natural Heritage Network	9.5.3 9.6
Environment Canada (EC)	▪ Migratory birds ▪ Species at risk	9.5.3 9.5.4.1 9.5.4.2 9.6

9.5 Environmental effects analysis

9.5.1 Interactions and potential adverse environmental effects

The table below identifies the expected interactions between the Project and the environment, and the potential adverse environmental effects resulting from those interactions.

Table 9-4: Project-Environment Interactions

	Environmental Element	Description of Interaction (or Why No Interaction is Expected)	Potential Adverse Environmental Effect	Mitigation Discussed in:
Bio-Physical	Physical Environment	▪ Clearing, topsoil salvage, stripping, grading, trenching and backfilling ▪ Highway, road, rail and water crossings ▪ Cleanup and reclamation during construction	▪ Terrain instability ▪ Trench subsidence ▪ Reduction in trench stability at watercourse crossings	Standard Mitigation (9.5.3)
	Soil and Soil Productivity	▪ Clearing, topsoil salvage, stripping, grading, trenching, and backfilling ▪ Highway, road, rail and water crossings ▪ Cleanup and reclamation during construction ▪ Pipeline maintenance during operation	▪ Terrain instability ▪ Trench subsidence ▪ Reduction in trench stability at watercourse crossings ▪ Less productive soil due to wind and water erosion, topsoil-subsoil admixing, compaction and rutting	Standard Mitigation (9.5.3)
	Vegetation	▪ Site clearing during construction ▪ Reclamation during construction ▪ Pipeline maintenance during operation	▪ Loss of deciduous forest ▪ Loss of grasslands and cultural meadow ▪ Loss of terrestrial Ecological Land Classification units, including vegetation resources important to wildlife and humans ▪ Alteration of native species composition ▪ Weed introduction and spread	Standard Mitigation (9.5.3)

	Environmental Element	Description of Interaction (or Why No Interaction is Expected)	Potential Adverse Environmental Effect	Mitigation Discussed in:
	Surface Water Quality and Quantity	▪ Instream construction of watercourse crossings ▪ Clearing of RoW, trench excavation and backfilling during construction ▪ Construction of HDD crossings ▪ Water withdrawal for construction activities	▪ Redirection of streamflow or natural drainage patterns ▪ Reduction in lateral and/or vertical stability of watercourses from scour and/or bank erosion ▪ Reduction in water quality due to increase in suspended sediment load and sediment deposition ▪ Reduction in water quality due to the accidental release of drilling mud ▪ Change in natural flow rates	Standard Mitigation (9.5.3)
	Groundwater Quality and Quantity	▪ Trenching, boring, HDD and dewatering activities during construction ▪ Water withdrawal for hydrostatic testing during construction ▪ Pipeline maintenance during operation	▪ Reduction in quality from the baseline groundwater quality ▪ Change in groundwater recharge, flow and water level	Standard Mitigation (9.5.3)
	Aquatic Species and Habitat	▪ Site clearing during construction ▪ Construction of watercourse crossings and temporary equipment crossings	▪ Reduction in the amount of instream and/or riparian habitat ▪ Reduction in the amount or quality of fish habitat from increased suspended sediment load and sediment deposition ▪ Fish mortality or injury ▪ Reduction in the amount or quality of Redside Dace habitat ▪ Redside Dace mortality or injury	Standard Mitigation (9.5.3) 9.5.4.3

	Environmental Element	Description of Interaction (or Why No Interaction is Expected)	Potential Adverse Environmental Effect	Mitigation Discussed in:
	Wetlands	▪ Ground clearing, grading, trenching, HDD/boring, backfilling ▪ Pipeline maintenance during operation	▪ Loss or alteration of wetland habitat ▪ Reduction in wetland habitat function ▪ Reduction in wetland hydrological and water quality function ▪ Alteration of native wetland vegetation through weed introduction and spread	Standard Mitigation (9.5.3)
	Wildlife and Wildlife Habitat	▪ Site clearing during construction ▪ Pipeline construction activities including vehicle and equipment traffic ▪ Pipeline inspection and maintenance during operation	▪ Loss of wildlife habitat ▪ Reduction in wildlife survival, reproduction and distribution ▪ Reduced habitat effectiveness as a result of fragmentation, creation of edges, or sensory disturbance ▪ Effects as listed above on Little Brown Myotis and Western Chorus Frog, and their habitats	Standard Mitigation (9.5.3) 9.5.4.1 9.5.4.2
	Species at Risk or Species of Special Status and Related Habitat	▪ Site clearing during construction ▪ Pipeline construction activities including vehicle and equipment traffic ▪ Pipeline inspection and maintenance during operation	▪ As listed above under "Aquatic Species and Habitat" and "Wildlife and Wildlife Habitat"	Standard Mitigation (9.5.3) 9.5.4.1 9.5.4.2 9.5.4.3
	Atmospheric Environment	▪ Operation of heavy equipment during construction ▪ Site clearing, stripping, grading, trenching, backfilling ▪ Highway, road, rail and water crossings ▪ Pipeline inspection and maintenance ▪ On-site office trailer heaters	▪ Release of air contaminants from fuel combustion ▪ Increase in air emissions and fugitive dust ▪ Increase in greenhouse gas emissions from equipment during construction, inspection and maintenance activities	Standard Mitigation (9.5.3)

	Environmental Element	Description of Interaction (or Why No Interaction is Expected)	Potential Adverse Environmental Effect	Mitigation Discussed in:
	Acoustic Environment	▪ Ground clearing, grading, trenching, HDD/boring, backfilling and pipe lowering activities ▪ Off-road equipment ▪ Smaller equipment (generators, pumps, welders) ▪ Pipeline inspection and maintenance	▪ Increase in noise from equipment during construction and site-specific maintenance activities ▪ Reduction in wildlife habitat, wildlife survival, reproduction and distribution due to sensory disturbance	Standard Mitigation (9.5.3)
Socio-Economic	Human Occupancy/Resource Use (including Fisheries)	▪ Ground clearing, grading, trenching, HDD/boring, backfilling ▪ Pipeline inspection and maintenance	▪ Planned or future land use or development may be restricted, reduced, or require consultation with TransCanada ▪ Disruption to recreational land use in Claireville Conservation Area ▪ Temporary disruption of agricultural resource use ▪ Reduction in groundwater quality (for private well owners)	Standard Mitigation (9.5.3)
	Heritage Resources	▪ Ground clearing, grading, trenching, HDD/boring, backfilling ▪ Pipeline inspection and maintenance	▪ Damage to or loss of previously unidentified heritage and/or archaeological resources or sites	Standard Mitigation (9.5.3)
	Human Health	▪ Ground clearing, grading, trenching, HDD/boring, backfilling ▪ Pipeline inspection and maintenance	▪ Alteration of visual aesthetics in Claireville Conservation Area	Standard Mitigation (9.5.3)
	Social and Cultural Well-being	▪ Ground clearing, grading, trenching, HDD/boring, backfilling ▪ Pipeline inspection and maintenance	▪ Disruption of social well-being due to increased traffic and noise during construction	Standard Mitigation (9.5.3)

	Environmental Element	Description of Interaction (or Why No Interaction is Expected)	Potential Adverse Environmental Effect	Mitigation Discussed in:
Other	Accidents/Malfunctions	▪ Spill or leak of deleterious substance during construction or operations ▪ Release of drilling fluid during HDD ▪ Uncontrolled fire ▪ Third-party or Project pipeline rupture	▪ Loss or reduction in soil quality and productivity; ground or surface water quality; wetlands and their functions; fish and fish habitat; vegetation; and wildlife habitat ▪ Reduced air quality ▪ Change in land and resource use ▪ Change in human health and aesthetics ▪ Damage to infrastructure and services	Standard Mitigation (9.5.3)
	Effects of the Environment on the Project	▪ Changes in climactic conditions during operations ▪ Severe weather events (flooding, forest fire) during construction and operations ▪ Contaminated soil may be encountered during construction activities	▪ Decrease in pipeline integrity ▪ Damage to infrastructure ▪ Reduction in soil quality	Standard Mitigation (9.5.3)

9.5.2 Mitigation of potential adverse environmental effects

In its application, TransCanada has identified routine design and standard mitigation to mitigate most of the potential adverse environmental effects identified in Table 9-5. The reader is referred to TransCanada's application and supporting documentation, related submissions, and EPP for details on all TransCanada's proposed mitigation.

Where there are outstanding issues regarding key environmental elements, or the applicant's proposed mitigation may not be sufficient and additional mitigation may be necessary, then a detailed analysis is presented in subsection 9.5.4.

9.5.3 Standard mitigation

The NEB recognizes that many adverse environmental effects are resolved through standard and site-specific mitigation. Standard mitigation refers to a specification or practice that has been developed by industry, or prescribed by a government authority, that has been previously employed successfully and is now considered sufficiently common or routine that it is integrated into the company's management systems and meets the expectations of the NEB.

Among the mitigation strategies to avoid or minimize the effects of the Project, TransCanada is relying in part on minimizing the disturbance footprint by selecting a route that parallels existing linear disturbance as well as the future 427 Transportation Corridor, which is planned to be constructed in 2017. The Project parallels existing and planned linear disturbances for about 88% of its length. TransCanada also plans to use existing access and existing disturbed or cleared areas for temporary workspace where possible. Of the 11 km proposed pipeline, approximately 5 km will be constructed using trenchless methods to cross under roads, railway, and several watercourses, resulting in minimal surface disturbance in those areas.

Standard mitigation is proposed to avoid or minimize potential adverse environmental effects on the terrain and topography of the area, soils, native vegetation, wetlands, water quality and quantity, fish and fish habitat, wildlife and wildlife habitat, atmospheric and acoustic environment, and human receptors (as identified in Table 9-4). For example, TransCanada will conduct watercourse crossings in accordance with Department of Fisheries and Oceans Canada (DFO) *Measures to Avoid Causing Harm to Fish and Fish Habitat* and best practices as described in the former applicable Operational Statements.

TransCanada is relying in part on minimizing impacts to private landowners by paralleling the existing and future public transportation corridors as closely as possible, routing the pipeline to avoid frontages, reducing the RoW width where feasible, and designing the pipeline depth to accommodate all existing utilities and, if achievable, known proposed and planned utilities. Ongoing consultation and communication with municipalities, landowners and Aboriginal groups will be carried out to mitigate impacts to land use.

In an effort to avoid scheduling conflicts with parties who have planned activities in the area, TransCanada stated it will attempt to coordinate its construction schedule and activities with these parties. TransCanada will establish crossing agreements for all transected utilities in an effort to avoid interfering with existing infrastructure in the area.

To confirm that all general and site-specific mitigation measures are appropriate and will be implemented according to their intent, the Board has decided to include the following conditions.

9.5.3.1 Environmental protection plan

TransCanada provided an EPP and alignment sheets with its application and committed to providing the Board with final and updated versions prior to construction.

Views of the Board

The Board notes TransCanada's commitment to incorporate any alternative mitigation measures for species at risk determined through ongoing consultation and as agreed to by TransCanada, the MNRF and EC into the EPP.

The Board requires TransCanada to file an updated, Project-specific EPP to ensure that any additional mitigation, as agreed to through consultation or as a result of permits issued by other agencies, is included in the EPP, and to communicate all environmental protection procedures and mitigation measures to employees, contractors, and regulators. Updated Environmental Alignment Sheets are to be included with the EPP. The Board also requires TransCanada to include in its EPP updated standard or typical construction drawings, or evidence that the drawings have been reviewed and show current construction practices. The Board requires TransCanada to file the updated EPP 45 days prior to commencement of construction, including clearing, in order to allow sufficient time for an effective review.

9.5.3.2 Post-construction monitoring reports

TransCanada proposed to begin post-construction environmental monitoring during the first full growing season after final clean-up, and to prepare post-construction monitoring reports after the first and second years of monitoring. Monitoring would include reclamation, revegetation, erosion, watercourse crossings and wetlands. RoW conditions would be inspected to assess the effects of construction and the effectiveness of mitigation and reclamation measures. The reports would document all environmental issues, as well as any follow-up assessments and mitigation plans to resolve those issues. Where remedial measures are required, TransCanada stated that further consultation with landowners and appropriate regulatory agencies may be warranted.

Views of the Board

Due to the sensitivity and vulnerability of species at risk, the Board is of the view that two years of standard post-construction monitoring is not sufficient. In order to provide greater certainty that mitigation is effective in the long term, the Board requires that the post-construction monitoring reports that TransCanada committed to in its application be submitted to the Board after the first, third and fifth growing seasons following completion of final cleanup. The Board expects the post-construction monitoring reports to include any issues of relevance to the species at risk described in section 9.5.4 below.

The Board acknowledges the interest in environmental monitoring expressed by the MNCFN and the Conseil de la Nation huronne-wendat. As discussed in 5.1.1, the Board

expects TransCanada to continue to consult with interested Aboriginal groups throughout the life cycle of the Project. Accordingly, when the post-construction monitoring reports required by NEB Condition 13 are available, the Board expects TransCanada to engage the individual groups to discuss how the groups wish to receive the information.

9.5.3.3 Heritage resources

Should any previously unidentified heritage resource sites be encountered during construction of the project, activity at the site would be stopped, the Heritage Resource Discovery Contingency Plan would be implemented and the appropriate regulatory agencies notified.

Views of the Board

The Board requires TransCanada to file copies of its correspondence from the provincial authority(ies) responsible for heritage resources confirming that TransCanada has obtained all of the required archaeological and heritage resource permits and clearances, and a statement indicating how TransCanada intends to implement any recommendations provided by the provincial department for areas where clearance from Ontario has not already been issued.

9.5.4 Detailed analysis of key environmental issues

There are three issues explored in detail in the following subsections. Definitions of the criteria used to evaluate the significance of the potential residual effects are presented in Table 9-5 at the end of this chapter.

9.5.4.1 Wildlife species at risk – Little Brown Myotis

Background/Issues and Views of Participants	Little Brown Myotis is designated Endangered on Schedule 1 of SARA, and designated Endangered in Ontario. The current decline of Little Brown Myotis and other bat species is primarily due to a fungal disease known as "white-nose syndrome". Little Brown Myotis and suitable roosting habitat were confirmed to be present within the Project footprint. TransCanada confirmed through further habitat analysis and consultation with Ontario Ministry of Natural Resources and Forestry (MNRF) that the potential roosting habitat for Little Brown Myotis would be limited to the northern woodlot near KP 7, which supports snags (dead trees) that would be cleared for the Project. Potential adverse environmental effects to Little Brown Myotis include loss of habitat due to vegetation clearing and sensory disturbance, and decreased survival, reproduction and distribution due to construction, increased vehicle-wildlife collisions, and sensory disturbance. *Views of TransCanada* TransCanada has consulted on several occasions with both EC and the MNRF regarding potential impacts of the Project on species at risk, including Little Brown Myotis. TransCanada stated that it is awaiting a decision by MNRF on whether a provincial species at risk permit is required, and that its consultation with MNRF is ongoing. TransCanada also submitted that EC confirmed that it will defer to the province the protection of provincially listed species. There is currently no Recovery Strategy or Action Plan for Little Brown Myotis.

	Vegetation clearing for the Project would result in a loss of up to 1.9 ha or 3.6% of bat habitat within the LSA. Indirect habitat loss through sensory disturbance is also predicted to affect Little Brown Myotis. TransCanada stated that the terrestrial LSA is heavily disturbed by existing industry and development, and assumes that local wildlife has habituated to the human activity within the terrestrial LSA. TransCanada predicted that residual effects for bats in general would be alteration or loss of available habitat and a change in survival, reproduction and distribution, but no residual effects were predicted for Little Brown Myotis. *Views of Environment Canada* EC submitted that the proposed Project would be located within a highly disturbed and fragmented landscape with remnant natural areas, and that it expected that the adverse effects on species at risk would be adequately mitigated with the appropriate implementation of the measures proposed by TransCanada, as well as the application of EC's advice and recommendations. EC submitted that a federal SARA permit would not be required for the Project since the Project will not occur on federal lands. EC noted that a small portion of the RoW would traverse wooded areas on private land which cannot be avoided, and that the MNRF has engaged the proponent to minimize effects of the Project on Little Brown Myotis. EC also submitted that the loss of breeding or roosting habitat has not been identified as a primary threat for Little Brown Myotis; however, the use of bat boxes, when installed in appropriate locations, are proven to provide a suitable habitat substitute.
Proposed Mitigation	General mitigation measures for wildlife species and wildlife species at risk are included in TransCanada's application and EPP. Any additional mitigation agreed upon with MNRF will be incorporated into the final EPP which will be provided to the Board prior to construction. Through consultation with the MNRF, TransCanada identified the following mitigation options specific to Little Brown Myotis: ▪ Avoidance during the Restricted Activity Period (RAP) of 1 April - 31 May, if possible. Tree clearing is currently anticipated to be conducted outside of the RAP; ▪ If it is not possible to avoid clearing during the RAP, exit surveys would be conducted; and ▪ Installation of bat boxes within the north woodland to replace the removed snags at a ratio of 1:1, to provide alternative habitat to any bats returning to the general area of the Project. The placement of bat boxes would be determined by a qualified biologist and would be installed before May of the year following removal. MNRF advice will be taken into account to determine if, when and how to implement this option. If listed or sensitive species are identified during construction of the Project, the Wildlife Species of Concern Discovery Contingency Plan would be implemented. TransCanada committed to providing the Board with an update on the advice provided by MNRF and any related consultations, including the MNRF's decision on whether to issue a Species at Risk permit.
Proposed Monitoring	If bat boxes are installed, TransCanada may conduct post-construction monitoring which could include acoustic monitoring and placement of a guano collection tray under each bat box to determine if it is being used by bats. MNRF advice will be taken into account to determine if, when and how to implement this post-construction monitoring program.

Views of the Board	The Board finds that residual effects to Little Brown Myotis are likely to occur, given that up to 1.9 ha of bat roosting habitat would be cleared for the Project. However, the Board considers this residual effect as not likely to be significant. In reaching this finding, the Board considered the localized habitat loss predicted, the reversibility of this effect in the long term, and the oversight of the MNRF on this issue. The Board has considered the cumulative effect of this habitat loss in its cumulative effects assessment (Section 9.6). The Board is satisfied with TransCanada's proposed standard mitigation for wildlife and wildlife habitat and specific mitigation options to minimize impacts to Little Brown Myotis, including TransCanada's commitment to ongoing consultation with MNRF to determine the appropriate option(s) to implement. The Board notes that a federal species at risk permit is not required, as the Project is not conducted on federal lands. There is a possibility that the province may issue a species at risk permit in relation to the Project. Should such a permit be issued, the Board is confident that it would include any terms and conditions that the MNRF deems necessary to allow the Project to proceed under provincial species at risk legislation. The Board requires that TransCanada incorporate all project-specific mitigation in its updated EPP and alignment sheets, including any additional mitigation or monitoring for Little Brown Myotis as determined through consultation with MNRF, or as conditions of any permit issued by MNRF (Condition 6, in Appendix II). The updated EPP will be subject to approval of the Board prior to construction. As discussed in section 9.5.3.2, to provide greater certainty that mitigation is effective in the long term, the Board requires that post-construction monitoring of the environment, including species at risk, be conducted over a longer period of time than proposed by TransCanada. The Board expects TransCanada's post-construction monitoring reports to include reporting on any issues related to Little Brown Myotis, and has included wording to this effect in the post-construction monitoring report condition.
Evaluation of Significance of Residual Effects	Frequency: Single; Duration: Long-term; Reversibility: Reversible; Geographical Extent: Project footprint; Magnitude: Low to Moderate Adverse Effect Not likely to be significant

9.5.4.2 Wildlife species at risk –Western Chorus Frog

Background/Issues and Views of Participants	Western Chorus Frog (Great Lakes/St. Lawrence-Canadian Shield population) is designated Threatened on Schedule 1 of SARA. TransCanada identified probable nesting/spawning habitat in the swamp forest features found between KP 6 and KP 7 based on historical information. TransCanada committed to conduct a pre-construction survey for Western Chorus Frog in the area during the appropriate season. The wetlands between KP 6 and KP 7, where trenched construction methods would be used, are characterized as deciduous swamp and deciduous thicket swamp wetlands. About 2 ha of the approximately 3.15 ha of wetlands within the Project footprint is deciduous swamp, representing about 2% of the wetlands in the terrestrial LSA. The deciduous swamp habitat is comprised of mature silver maple and burr oak trees that can take several decades to re-establish if removed. TransCanada claimed that areas disturbed within wetlands are anticipated to develop into wetland communities that resemble conditions present at baseline, although longer timelines are required for the regeneration of mature swamp wetlands. Potential adverse environmental effects to Western Chorus Frog could include loss of habitat due to vegetation clearing and sensory disturbance, and decreased survival, reproduction and distribution due to construction, increased vehicle-wildlife collisions, and sensory disturbance.

	Views of TransCanada TransCanada predicted that residual effects to frogs in general would be direct and indirect alteration or loss of available habitat and change in survival, reproduction and distribution; however, no residual impacts to Western Chorus Frog were predicted. TransCanada consulted with EC regarding potential impacts of the Project on species at risk, including Western Chorus Frog. *Views of Environment Canada* In its letter of comment, EC stated that a federal SARA permit would not be required for the Project since the Project will not occur on federal lands. EC submitted that the proposed Project would be located within a highly disturbed and fragmented landscape with remnant natural areas, and that it expected that the adverse effects on species at risk would be adequately mitigated with the appropriate implementation of the measures proposed by TransCanada, as well as the application of EC's advice and recommendations. EC also submitted that there is no critical habitat identified within the proposed Project footprint at this time; however, it noted that because critical habitat is present adjacent to the southern portion of the Project, and given the Project footprint contains both suitable habitat features and historical observations of Western Chorus Frog, there is a very strong possibility that Western Chorus Frog may occur within the Project footprint. It is also possible that additional critical habitat could be identified in the future. EC stated that construction and maintenance activities should be avoided at nest (breeding) sites between March 15 and June 7 and at hibernation sites between October 1 and March 15. EC noted that temporary or shallow portions of permanent wetlands are the primary suitable habitat features for most of the life cycle stages for Western Chorus Frog, and that interconnected wetlands and terrestrial environments provide connectivity between local populations, which is particularly important for their survival and recovery within highly disturbed and fragmented landscapes. EC made two recommendations consistent with the Recovery Strategy for Western Chorus Frog.
Proposed Mitigation	In its application and subsequent filings, TransCanada provided standard mitigation measures for wildlife species and wildlife species at risk as well as wetlands. TransCanada stated that it will continue to work with the Toronto and Region Conservation Authority (TRCA) with regard to permitting requirements for working in wetlands. Any additional mitigation agreed upon through consultation with provincial and federal agencies will be incorporated into the final EPP which will be provided to the Board prior to construction. TransCanada committed to the following specific mitigation measures for Western Chorus Frog, as recommended by EC: ▪ Completion of a pre-construction survey for in the wetland/woodland area north of Langstaff Road (near KP 6 and 7) during the appropriate season; and ▪ Avoidance of clearing and construction activities during the Restricted Activity Period (RAP) for Western Chorus Frog, to the extent feasible in the areas identified as Western Chorus Frog habitat. If it is not possible to avoid the RAP, TransCanada will undertake further consultation with EC. If listed or sensitive species are identified during construction of the Project, the Wildlife Species of Concern Discovery Contingency Plan will be implemented.

<table>
<tr><td>Proposed Monitoring</td><td>As part of the post-construction monitoring program for the Project, TransCanada will monitor the natural recovery of the wetlands. The effectiveness and efficiency of mitigation and remedial measures in terms of wetland functions will be documented. TransCanada proposed to begin its monitoring during the first full growing season after final clean-up, and to prepare post-construction monitoring reports following the first and second years of monitoring.

In response to EC's recommendation, TransCanada stated it would monitor post-construction use of the wetlands near KP 6 and 7 by Western Chorus Frogs, where the species was identified during surveys completed to support the ESA. TransCanada proposed to conduct this monitoring in the spring of 2016 and 2017.</td></tr>
<tr><td>Views of the Board</td><td>The Board finds that residual effects to Western Chorus Frog or its habitat are likely to occur, since swamp habitats identified as probable breeding habitat for the species would be subject to clearing and trenching for the Project. Avoidance of this area during the breeding and hibernation periods is expected to reduce the potential for direct mortality impacts as well as indirect habitat loss through temporary displacement or sensory disturbance during these sensitive periods. However, a portion of the habitat for the species would be temporarily altered until restoration of wetland habitat and function. The Board notes that TransCanada has committed to further consultation with EC in the event that EC's recommendations cannot be implemented.

The Board is of the view that any residual effects of the Project to Western Chorus Frog would be localized and reversible upon restoration of the wetland areas, and that any residual effects are not likely to be significant. The Board has considered this residual effect in its cumulative effects assessment (Section 9.6).

The Board is satisfied with TransCanada's proposed standard mitigation for wetlands, wildlife and wildlife habitat, and specific mitigation proposed for Western Chorus Frog. However, as discussed in s. 9.5.3.2, to provide greater certainty that mitigation is effective in the long term, the Board finds that post-construction monitoring of the environment, including species at risk, must be conducted over a longer period of time than proposed by TransCanada.

The Board notes that the Western Chorus Frog is known to occur in proximity to the Project, even if it does not currently occupy the area of suitable habitat identified within the Project footprint. Given that survival and recovery of species at risk within highly disturbed and fragmented landscapes is particularly aided by connectivity between local populations, the Board expects that TransCanada will include monitoring for Western Chorus Frog as part of its post-construction monitoring program, regardless of whether occupancy is established within the footprint prior to construction. TransCanada's post-construction monitoring reports are to include reporting on any issues related to Western Chorus Frog, and wording to this effect is included in the post-construction monitoring report condition (Condition 13, Appendix II).

The Board requires that TransCanada incorporate all project-specific mitigation for Western Chorus Frog in its updated EPP and alignment sheets, and has included wording to reflect this in the EPP condition (Condition 6, Appendix II). This will enable any additional mitigation relevant to Western Chorus Frog or its habitat to be included, as determined through ongoing consultation with EC and as part of any permit conditions for working in wetlands, as determined by TRCA.</td></tr>
<tr><td>Evaluation of Significance of Residual Effects</td><td>
<table>
<tr><th>Frequency</th><th>Duration</th><th>Reversibility</th><th>Geographical Extent</th><th>Magnitude</th></tr>
<tr><td>Single</td><td>Medium-term</td><td>Reversible</td><td>Project footprint</td><td>Low to moderate</td></tr>
<tr><td colspan="5">Adverse Effect</td></tr>
<tr><td colspan="5">Not likely to be significant</td></tr>
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9.5.4.3 Aquatic species at risk - Redside Dace

Background/Issues and Views of Participants	Redside Dace is a coolwater fish species that occurs in primarily headwater streams with slow-moving, clear water. Redside Dace is designated Endangered in the province of Ontario and by COSEWIC, and activities that cause removal of riparian vegetation or that increase siltation into the stream are a threat to species survival. Redside Dace have the potential to occur at three watercourse crossings along the project route: Robinson Creek and two tributaries of Robinson Creek. Field surveys conducted by TransCanada concluded that Robinson Creek and its tributaries contained overall low quality fish habitat; however TransCanada did not confirm the presence of the species at these crossings. *Views of TransCanada* TransCanada stated that potential project effects to Redside Dace include changes to the amount or quality of habitat and mortality and/or injury (as listed in Table 9-4 under "Aquatic Species and Habitat"). TransCanada stated that direct effects to Redside Dace in Robinson Creek are considered unlikely, because the species has been absent from Robinson Creek in recent years.
Proposed Mitigation	A trenchless crossing method will be used at Robinson Creek and TransCanada submitted that no impacts to fish and fish habitat are expected as a result of watercourse crossing activities. The two tributaries of Robinson Creek will be crossed using isolated or dry open-cut crossings methods. TransCanada has committed to conduct all watercourse crossings in accordance with DFO's *Measures to Avoid Causing Harm to Fish and Fish Habitat*. TransCanada has proposed the following mitigation specific to Redside Dace: ▪ Construction will be scheduled to avoid the designated RAP for Redside Dace (15 September to 30 June), where possible. If construction is planned to occur within the RAP for Redside Dace, TransCanada will consult with the MNRF to obtain regulatory approval to work within the RAP for watercourses that may contain Redside Dace or their habitat. ▪ Clearing of extra TWS within 30 m of a watercourse/wetland to protect riparian areas will be prohibited, or done only as agreed upon with the MNRF and the TRCA. TransCanada submitted that it had consulted with the MNRF regarding provincially-designated species at risk, and that the MNRF would not require a species at risk permit for Redside Dace.
Views of the Board	The Board is of the view that the standard mitigation measures TransCanada has committed to implementing, in addition to any specific mitigation measures required through consultation or permits with MNRF and TRCA, will be effective at addressing the majority of potential Project effects to Redside Dace and their respective habitat. However, the Board is of the view that Project construction, after the application of the proposed mitigation measures, will result in a residual effect to Redside Dace habitat. Clearing and disturbance, or loss of riparian vegetation, is predicted to occur when an isolated open cut method is employed. Given the low quality habitat that is currently present at the crossing locations, the medium-term duration of the residual effect, and that the residual effect is reversible, the Board is of the view that disturbance or alteration of riparian vegetation is not likely to cause significant adverse effects to Redside Dace. In the event that TransCanada uses an alternative crossing technique from its proposed trenchless crossing of Robinson Creek, TransCanada may need to apply other mitigation measures to protect Redside Dace and Redside Dace habitat. Therefore, the Board requires TransCanada to notify the Board of any changes or alternatives to trenchless crossing methods (Condition 10, Appendix II). As discussed in section 9.5.3.2, to provide greater certainty that mitigation is effective in the long term, the Board requires that post-construction monitoring of the environment,

	including watercourse crossings and species at risk, be conducted over a longer period of time than proposed by TransCanada. The Board expects TransCanada's post-construction monitoring reports to include reporting on any issues related to Redside Dace and its habitat, and has included wording to this effect in the post-construction monitoring report condition (Condition 13, Appendix II).
Evaluation of Significance of Residual Effects	Frequency: Multiple; Duration: Medium-term; Reversibility: Reversible; Geographical Extent: LSA; Magnitude: Low Adverse Effect Not likely to be significant

9.6 Cumulative effects assessment

The assessment of cumulative effects considers the impact of the residual effects associated with the Project in combination with the residual effects from other projects and activities that have been or will be carried out, within the appropriate temporal and spatial boundaries and ecological context.

Views of TransCanada

TransCanada considered existing, man-made disturbances and those projects and activities that are known and approved for the reasonably foreseeable future in its cumulative effects assessment, including development assumptions that support and are consistent with the long-term economic or financial assumptions, even if formal plans or applications have not yet been made. TransCanada did not consider future projects or activities for which formal plans have not been publicly disclosed and information was not available.

Land development has been extensive and continuous in the area for more than 20 years. Current activities contributing to environmental effects include agriculture, urban and industrial development.

The existing and proposed projects and activities that TransCanada determined to have potential for cumulative effects include:

- Infrastructure associated with other linear developments (e.g., electricity transmission);
- Oil and gas projects;
- Power generating facilities;
- Highway expansion and rehabilitation;
- Commercial subdivisions;
- Municipal services infrastructure (including water, waste and wastewater management infrastructure);
- Infrastructure associated with recreation, education and health services; and
- Public transportation.

TransCanada stated that the area within the 2 km corridor centered on the proposed Project RoW and north of Highway 407 will be highly developed in the near future, including development adjacent to the Project footprint associated with the future 427 Transportation Corridor, such as:

- Extension of Highway 427 to Major Mackenzie Drive (six lanes proposed from Highway 7 to Rutherford Road and four lanes proposed from Rutherford Road to Major Mackenzie Drive);
- New interchanges at Langstaff Road, Rutherford Road and Major Mackenzie Drive;
- Dedicated transitway along the west side of the extension; and
- Associated works and support facilities such as overpasses, underpasses, watercourse crossings, local road realignments/connections, one carpool lot, nine stormwater management ponds, and three transitway stations.

TransCanada stated that most of the Project footprint crosses an employment area designated under the City of Vaughan's Official Plan 2010. Lands south of Langstaff Road have been successfully developed as employment areas, while development of areas north of Langstaff Road, which are part of the West Vaughan Employment Area (WVEA) have not advanced to development.

TransCanada stated that the proposed Project would have a footprint of about 86 ha, which is 3.8% of the terrestrial RSA. About 19 ha of the footprint would be permanent RoW, including about 8 ha of trenchless construction which is not expected to result in surface disturbance.

TransCanada predicted incremental environmental and socio-economic cumulative effects for most valued components, resulting from the interaction of the likely residual effects from the Project with the residual effects from other activities in the Project area. TransCanada considered these cumulative effects to be mainly of negligible to low importance, with only a few considered to be of low to moderate or moderate importance. TransCanada concluded that none of the predicted incremental cumulative effects would be significant. TransCanada also considered the potential for cumulative effects as a result of adverse residual effects on valued components associated with accidents and malfunctions, but concluded that no cumulative effects would occur.

Views of Participants

The City of Vaughan expressed concerns about impacts to Core Features within its Natural Heritage Network, as identified in the Vaughan Official Plan 2010, and suggested that habitat enhancements would mitigate cumulative impacts to the Natural Heritage Network. The City of Vaughan requested that the Board condition TransCanada to enter into an agreement with the City of Vaughan prior to construction, establishing compensation and mitigation of impacts to the Natural Heritage Network, including impacts on features and functions.

9.6.1 Views of the Board

The Board is of the view that most of the cumulative effects would be incremental in nature, fairly localized, and largely within the construction period.

The Board notes that TransCanada predicted no residual effects for species at risk or species of special concern other than Redside Dace, and therefore did not conduct a cumulative effects assessment for Little Brown Myotis or Western Chorus Frog. As discussed in sections 10.5.4.1 and 10.5.4.2, the Board is of the view that residual adverse effects to these species or their habitat would occur, but that they are not likely to be significant. The Board is also of the view that incremental adverse cumulative effects to these species may occur but that, with the standard and Project-specific mitigation committed to by TransCanada, implementation of the Board's conditions, and TransCanada's commitment to ongoing consultation with relevant agencies with respect to mitigation and post-construction remedial measures, cumulative effects to these species at risk are not likely to be significant.

Given the rapid pace of development in the region and particularly the planned 427 Highway Extension and other development within the West Vaughan Employment Area, the Board acknowledges that there is some uncertainty around the cumulative effects of all developments on species at risk. In order to provide greater certainty that mitigation is effective in the long term, particularly for vulnerable species already at a threshold by virtue of their federal species at risk listing, the Board has specifically included species at risk in its post-construction monitoring condition. Furthermore, the Board has directed TransCanada to conduct its post-construction environmental monitoring program over a period of five years rather than the two-year period proposed by TransCanada. This is expected to provide opportunities for adaptive management, in the event that mitigation has not been as effective as predicted.

The Board acknowledges the concerns of the City of Vaughan; however, the Board is of the view that adequate mitigation is in place for the Project, and that any loss of habitat will be temporary in nature. The Board has therefore decided not to impose any conditions regarding habitat enhancement or compensation.

The Board has considered the potential for cumulative adverse environmental effects. The Board has determined that there are no effects that are expected to be either of high magnitude or continuous, long-term, irreversible, and of RSA geographic extent. Therefore, it is unlikely that there would be any significant cumulative environmental effects resulting from this Project.

9.7 EA Conclusion

The Board is of the view that, with the implementation of TransCanada's environmental protection procedures and mitigation and the NEB's conditions, the Project is not likely to cause significant adverse environmental effects.

Table 9-5: Criteria, ratings and definitions used in evaluating the likelihood of significant effects

Criteria	Rating	Definition
All criteria	Uncertain	When no other criteria rating descriptor is applicable due to either lack of information or inability to predict.
Frequency (how often would the interaction occur that caused the effect)	Accidental	Rare and unplanned occurrence over the Project lifecycle.
	Single	One time occurrence within any one phase of the Project lifecycle.
	Clustered	Multiple occurrences within a single timeframe or location.
	Multiple	Multiple occurrences, whether during one phase of the Project lifecycle or over many phases.
	Continuous	Continuous through any phase of the Project lifecycle.
Duration (duration of the effect)	Short-term	Adverse environmental effect duration is in the order of months or limited to the proposed construction.
	Medium-term	Adverse environmental effect duration is in the order of a few years.
	Long-term	Adverse environmental effect would remain evident throughout the planned operation or beyond the lifecycle of the Project.
Reversibility	Reversible	Adverse environmental effect expected to return to baseline conditions within the life of the Project.
	Possible	Adverse environmental effect may or may not return to baseline conditions within the life of the Project.
	Irreversible	Adverse environmental effect would be permanent, or would last in the order of a few generations.
Geographic Extent	Project Footprint	Effect would be limited to the area directly disturbed by the Project development, including the width of the RoW and the TWS.
	Local Study Area (LSA)	Effect would generally be limited to the area in relation to the Project where direct interaction with the biophysical and human environment could occur as a result of construction or reclamation activities. This area varies relative to the receptor being considered (e.g. a 1 km wide corridor for wildlife).
	Regional Study Area (RSA)	Effect would be recognized in the area beyond the LSA that might be affected on the landscape level. This area also varies relative to the receptor being considered (e.g. Humber River watershed).

Criteria	Rating	Definition
Magnitude	Low	Effect is negligible, if any; restricted to a few individuals/species or only slightly affects the resource or parties involved; and would impact quality of life for some, but individuals commonly adapt or become habituated, and the effect is widely accepted by society.
	Moderate	Effect would impact many individuals/species or noticeably affect the resource or parties involved; is detectable but below environmental, regulatory or social standards or tolerance; and would impact quality of life but the effect is normally accepted by society.
	High	Effect would affect numerous individuals or affect the resource or parties involved in a substantial manner; is beyond environmental, regulatory or social standards or tolerance; and would impact quality of life, result in lasting stress and is generally not accepted by society.
Evaluation of Significance	Likely to be significant	Effects that are either: (1) of high magnitude; or (2) continuous, long-term, irreversible, and of RSA geographic extent.
	Not likely to be significant	Any adverse effect that does not meet the above criteria for "significant".

Appendix I

List of Issues

The Board will consider the following issues in this hearing:

1. The need for the proposed Project.
2. The economic feasibility of the proposed Project.
3. The potential commercial impacts of the proposed Project.
4. The potential environmental and socio-economic effects of the proposed project, including any cumulative environmental effects that are likely to result from the project, including those required to be considered by the NEB's *Filing Manual*.
5. The appropriateness of the route and land requirements for the proposed Project.
6. The engineering design and integrity of the proposed Project.
7. Potential impacts of the proposed Project on Aboriginal interests.
8. Potential impacts of the proposed Project on landowners and land use.
9. Contingency planning for spills, accidents or malfunctions, during construction and operation of the Project.
10. The terms and conditions to be included in any approval or recommendation.

Appendix II

Exclusion Order

ORDER XG-T211-027-2015

IN THE MATTER OF the *National Energy Board Act* (NEB Act) and the regulations made thereunder; and

IN THE MATTER OF an application made by TransCanada PipeLines Limited (TransCanada), pursuant to section 58 of the NEB Act, dated 15 August 2014, filed with the National Energy Board (Board) under File OF-Fac-Gas-T211-2014-02 01.

BEFORE the Board on 1 June 2015.

WHEREAS the Board received an application from TransCanada, pursuant to section 58 of the NEB Act, dated 15 August 2014 and amended to construct and operate the King's North Connection Pipeline Project (Project) between Enbridge's Albion Station expansion and TransCanada Line 200-2 pipeline in the Greater Toronto area of southern Ontario at an estimated cost of $227 million;

AND WHEREAS TransCanada filed additional evidence, responses to information requests and made commitments in additional filings dated 22 December 2014, 29 January 2015, 11 March 2015, 19 March 2015, 10 April 2015, 1 May 2015 and 14 May 2015;

AND WHEREAS TransCanada requested exemption from the provisions of paragraph 30(1)(a) and 31 of the NEB Act;

AND WHEREAS the Board held a written public hearing, including written evidence, letters of comment, information requests, a technical conference and written argument in respect of the Project pursuant to Hearing Order GHW-001-2014;

AND WHEREAS information about the Project is set out in Schedule A, attached to and forming part of this Order;

AND WHEREAS the Board has had regard to all considerations that are directly related to the Project and relevant, including environmental matters, pursuant to Part III of the NEB Act;

AND WHEREAS the Board has examined the application and related submissions and considers it to be in the public interest to grant the following relief;

IT IS ORDERED that, pursuant to section 58 of the NEB Act, the applied-for Project, as specified in Schedule A, is exempt from the provisions of paragraph 30(1)(a), and section 31 of the NEB Act. The effect of this exemption order is to approve the Project subject to the following conditions:

General

1. Condition Compliance

TransCanada shall comply with all of the conditions contained in this Order, unless the Board otherwise directs.

2. Project Design, Location, Construction, and Operation

TransCanada shall cause the approved Project to be designed, located, constructed, installed, and operated in accordance with the specifications, standards and other information referred to in its application or as otherwise agreed to during the hearing or in its related submissions.

3. Commitments Tracking Table

TransCanada shall file with the Board and post on its company website, in French and English, at least 30 days prior to commencing construction, a Commitments Tracking Table listing all commitments made by TransCanada in its application or in its related submissions, or during the GHW-001-2014 proceeding in relation to the Project, including reference to:

a) the documentation in which reference to the commitment is made (for example: the application and subsequent filings; responses to information requests; the transcript reference; any permit, authorization or approval requirements; condition filings);

b) the accountability for implementing each commitment; and

c) the timelines associated with the fulfillment of each commitment.

4. Implementation of Environmental Protection

TransCanada shall implement or cause to be implemented all of the policies, practices, programs, mitigation measures, recommendations and procedures for the protection of the environment included in or referred to in its application or as otherwise agreed to during the hearing or in its related submissions.

Prior to Construction (Including Clearing or Ground-breaking Activities)

5. Heritage and Archaeological Resources Condition

TransCanada shall file with the Board, at least 30 days prior to the commencement of construction activities:

a) a copy of the correspondence received from the provincial authority(ies) responsible for heritage resources confirming that TransCanada has obtained all of the required heritage and archeological resource permits and clearances; and

b) a statement on how TransCanada intends to implement any comments or recommendations contained in the permits and clearances referred to in paragraph a).

6. Environmental Protection Plan

TransCanada shall file with the Board for approval, at least 45 days prior to commencing construction, a final and updated project-specific EPP, including Environmental Alignment Sheets. The EPP shall describe all environmental protection procedures, and mitigation and monitoring commitments, as set out in TransCanada's application, subsequent filings, evidence collected during the hearing process, or as otherwise agreed to during the hearing and in its related submissions. The EPP shall include;

a) any environmental mitigation or monitoring as required under conditions of permits issued by the Ontario Ministry of Natural Resources and Forestry;

b) site-specific mitigation for the Western Chorus Frog and Little Brown Myotis;

c) updated Environmental Alignment Sheets; and

d) current drawings of typical construction practices.

7. Construction Schedule

TransCanada shall file with the Board, at least 14 days prior to commencing construction, a detailed construction schedule(s) identifying major construction activities. TransCanada shall notify the Board of any modifications to the schedule(s) as modifications occur.

8. Manuals and Programs

TransCanada shall file with the Board, within the time specified for each manual, plan and program, the following:

a) Construction Safety Manual – 14 days prior to commencing construction;

b) Field Emergency Preparedness and Response Plan – 14 days prior to commencing construction;

c) Confirmation that a Security Management Plan for the construction of the Section 58 Facilities, pursuant to the *National Energy Board Onshore Pipeline Regulations* and CSA Z246.1, has been developed – 14 days prior to commencing construction, and

d) Field Pressure Testing Program – 14 days prior to pressure test.

During Construction

9. Construction Progress Report

TransCanada shall file with the Board at the middle and end of each month, construction progress reports for the Section 58 Facilities. The reports shall include the following: information on the activities carried out during the reporting period; any environmental, safety and security issues and issues of non-compliance; and the measures undertaken for the resolution of each issue and non-compliance.

10. Alternative Watercourse Crossing

a) TransCanada shall, if it undertakes any contingency crossing method as an alternative to its proposed trenchless watercourse crossing method, confirm with the Board that the contingency crossing method will be conducted in accordance with Fisheries and Oceans Canada's Measures to Avoid Causing Harm to Fish and Fish Habitat; or

For those watercourse crossings that:

b) do not require a *Fisheries Act* paragraph 35(2)(b) Authorization, TransCanada shall file at least 30 days prior to the undertaking of the contingency crossing method:

   i. a summary of any changes to the crossing method and the reasons for those changes, potential effects of the changes, and any newly proposed mitigation measures;

   ii. copies of all correspondence from regulatory authorities concerning the changes; and

   iii. an assessment of the fish and fish habitat present at the crossing location and the effects to fish and fish habitat.

c) may require a *Fisheries Act* paragraph 35(2)(b) Authorization, TransCanada shall file at least 60 days prior to the undertaking of the contingency crossing method:

i. a summary of any changes to the crossing method and the reasons for those changes, potential effects of the changes, and any newly proposed mitigation measures;

ii. copies of all correspondence from regulatory authorities concerning the changes;

iii. an assessment of the fish and fish habitat present at the crossing location and the effects to fish and fish habitat; and

iv. a draft *Fisheries Act* application package.

11. Complaint Tracking

From commencement of construction to five years following the commencement of operations, TransCanada shall, for audit purposes, create and maintain records that chronologically track complaints by landowners, including municipal and regional governments, relating to the Section 58 Facility. The complaint tracking records shall include:

a) The date the complaint was received;

b) The form in which the complaint was received (for example, telephone, mail, email, or other communication methods that may evolve over time);

c) The date and summary of all subsequent telephone calls, visits, correspondence, site monitoring/inspections, follow-up reports and other related documentation;

d) Updated contact information for all persons involve in the complaint;

e) A detailed description of the complaint; and

f) Any further actions to be taken or an explanation why no further action is required.

Post-Construction and Operations

12. Conditions Compliance by a Company Officer

Within **30 days of the date that the approved Section 58 Facilities are placed in service**, TransCanada shall file with the Board a confirmation, by an officer of the company, that the approved Section 58 Facilities were completed and constructed in compliance with all applicable conditions in this Order.

If compliance with any of the applicable conditions cannot be confirmed, the officer of the company shall file with the Board details as to why compliance cannot be confirmed. Any filing required by this condition shall include a statement confirming that the signatory to the filing is an officer of the company.

13. Post-construction monitoring reports

On or before 31 January after each of the first, third and fifth complete growing seasons following completion of final cleanup of the Project, TransCanada shall file with the Board, a post-construction environmental monitoring report that:

a) Describes the methodology used for monitoring, the criteria established for evaluating success and the results found;

b) Identifies the issues to be monitored, including but not limited to unexpected issues that arose during construction, and their locations (for example, on a map or diagram, in a table);

c) Describes the current status of the issues (resolved or unresolved), any deviations from plans and corrective actions undertaken;

d) Assesses the effectiveness of the mitigation (planned and corrective) measures applied against the criteria for success;

e) Provides proposed measures and the schedule that TransCanada would implement to address ongoing issues or concerns.

The report shall address, but not be limited to, the issues pertaining to soils, weeds, watercourse crossings, wetlands, and species at risk.

14. Sunset Clause

Unless the Board otherwise directs prior to 2 June 2016, this Order shall expire on 2 June 2016, unless construction in respect of the Section 58 Facilities has commenced by that date.

NATIONAL ENERGY BOARD

Sheri Young
Secretary of the Board

SCHEDULE A
National Energy Board Order XG-T211-027-2015

TransCanada PipeLines Limited
Application dated 15 August 2014
assessed pursuant to section 58 of the *National Energy Board Act*

King's North Connection Pipeline Project
File OF-Fac-Gas-T211-2014-02 01

Pipeline Specifications – King's North Connection Pipeline

Project Type	New construction
Location	Greater Toronto Area of Southern Ontario Connect Enbridge Albion Station to TransCanada Line 200-2
Approximate Length	11 km
Outside Diameter	914.4 mm (NPS 36)
Minimum Wall Thickness	15.7 mm or greater
Pipe Material	Carbon steel
Pipe Material Standard	CSA Z245.1
Pipe Grade	Grade 483, X70
Pipe Manufacture Process	Electric resistance welded / Spiral welded / Seamless / etc.
External Coating Type	Fusion-bond epoxy
Maximum Operating Pressure	6 450 kPa
Product	Non-Sour Natural Gas